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THE PANAMA CANAL RECORD

PUBLISHED WEEKLY UNDER
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AUGUST 16, 1922, TO AUGUST 8, 1923

VOLUME XVI
WITH INDEX

THE PANAMA CANAL
BALBOA HEIGHTS, CANAL ZONE
1923

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1923.

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Volume XVI. Balboa Heights, C. Z., August 16, 1922. No. 1.

Bunkering 5,352 Tons of Coal in Less Than Nine Hours.

The coaling plant at Cristobal made a new record for fast bunkering on August 8 by loading 5,352 tons, 1,040 pounds, into the bunkers of the 3 cruisers of the Japanese training squadron in less than 9 hours. The trimming in bunkers was done by the crews of the ships and was largely responsible for the record. The coal was reclaimed from the stock pile and delivered to the bunkers by the machinery of the plant, and all of the work on the ships below decks was done by the crews. During a large part of the time all 3 ships were coaling at once. It was the best day's business ever done at the plant.

The squadron consists of the cruisers *Asama*, *Idzumo*, and *Iwate*. It cleared from Cristobal for South American ports on August 11.

Heavy Increase of Apple Shipments via Canal Predicted.

The Seattle Chamber of Commerce announces that approximately 1,000,000 boxes of Washington apples and close to 300,000 additional boxes from Oregon will be handled at the refrigerator terminals at Seattle during the coming season, as compared with 250,000 boxes last year, when shipments to northern European ports and Atlantic ports of the United States in refrigerator-equipped steamships via the Panama Canal were first undertaken.

During the past fiscal year, ending June 30, 1922, fresh fruit shipments from the west coast of the United States through the Panama Canal totaled 22,543 tons, of which approximately one-fourth was routed to the east coast of the United States and practically all of the remaining three-fourths to the British Isles. The heaviest shipments were in the months of January and February, which together totaled more than the combined shipments for the remaining 10 months of the year.

Additional American-Hawaiian Service in United States Coastwise Trade.

Announcement has been made by the American-Hawaiian Line (United American Lines) that 9 steamers will be added to its fleet in the coastwise service, and that Baltimore, Mobile, and New Orleans will be included among the Atlantic ports of call. The new services are to begin the latter part of August.

In connection with its present service, the additions will establish weekly sailings from Boston, New York, and Philadelphia; fortnightly sailings from Baltimore; and monthly sailings from Mobile and New Orleans. Ports of call on the Pacific coast are Los Angeles, San Francisco, Portland, Seattle, and Tacoma.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, August 12, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Ecuador	5	14.11	6	6.10	6	13.27	6	21.30	American	Pacific Mail Steamship Co	380.6	48.7	23.6	New York	San Francisco	General	2,899	5,926	4,178
Ethan Allen	5	16.15	6	7.32	6	15.04	6	16.00	American	Tampa Interocean. S. S. Co. S.B.	439.0	60.0	23.0	Galveston	Yokohama	General, sulphur	6,845	8,987	6,534
Tongking[1]	6	13.35	7	6.22	7	13.57	7	15.00	Danish	East Asiatic Steamship Co	398.2	53.6	20.7	Copenhagen	San Francisco	General	5,339	7,013	5,317
Port Napier	6	17.38	7	6.53	7	15.05	7	16.00	British	Commonwealth and Dom. Line	490.2	61.0	25.0	London	Auckland	General	4,248	10,987	8,165
Sciota[2]			7	7.30	7	14.57			American	U. S. Navy				Cristobal	Balboa				
San Zotico	7	6.46	7	8.48	7	16.29	7	17.12	British	Eagle Oil Transportation Co	400.2	52.0	16.4	Avonmouth	San Francisco	Ballast		6,032	3,892
Garfield	6	21.02	7	11.05	7	17.55	8	1.25	American	Grace Line	300.0	45.0	18.10	New York	Salaverry	General	2,643	3,228	2,010
Maple Branch	7	12.22	7	12.35	7	19.30	7	21.45	British	Nautilus Steamship Co	400.0	52.0	21.6	Port Talbot	Talcahuano	General	4,580	5,618	4,116
Italia	7	11.52	7	13.00	7	20.28	8	12.14	Swedish	Swedish Lloyds	285.6	41.0	17.8	New Orleans	Talcahuano	General	2,573	2,381	1,458
Salvador	7	7.00	8	6.10	8	13.35	8	17.14	British	Pacific Steam Navigation Co	225.0	35.4	15.0	Pto. Colombia	Tumaco	General	660	1,213	692
Endicott	8	5.14	8	10.40	8	17.45	8	18.18	American	Barber Line (S. B.)	402.0	56.4	27.6	New York	Yokohama	Steel, oil, cotton	7,854	6,929	5,182
Duendes	8	13.10	9	6.07	9	14.04	9	15.30	British	Pacific Steam Navigation Co	390.0	50.0	23.7	Liverpool	Guayaquil	General	4,050	6,014	4,494
Mexican	8	16.52	9	7.40	9	14.53	9	15.44	American	American-Hawaiian Line	472.3	57.2	26.0	Boston	Seattle	General	7,019	9,258	6,789
Amalthus	8	19.30	9	8.10	9	15.50	9	17.10	British	Anglo-Saxon Petroleum Co	412.0	53.8	21.6	Cardiff	San Francisco	Ballast		6,242	4,300
Australia	9	8.27	9	9.00	9	16.44	10	2.00	British	British-India Steam Nav. Co	482.0	62.0	28.0	Liverpool	Auckland	General	7,944	9,453	6,544
Marore	9	9.45	9	10.10	9	18.30	9	19.30	American	Ore Steamship Corp	550.0	72.0	24.0	New York	Cruz Grande	Ballast		15,551	4,297
Amur Maru	9	9.50	9	10.55	9	19.25	9	20.50	Japanese	Osaka Shosen Kaisha	425.0	56.0	25.0	New York	Yokohama	Iron, steel, mach	5,265	7,901	5,629
Advance	7	9.03	9	11.50	9	20.02	10	4.10	American	Panama Railroad Steamship Line	295.0	38.5	18.8	New York	Guayaquil	General	450	2,947	2,113
Conde de Churruca	5	16.55	10	6.35	10	14.02	10	15.00	Spanish	Soc. Com. de Oriente	383.0	48.7	17.0	Tampico	Los Angeles	Ballast		4,813	2,957
Hamburg Maru	10	6.08	10	11.30	10	18.58	10	20.45	Japanese	Osaka Shosen Kaisha	400.0	54.0	14.0	New Orleans	Yokohama	Silk goods	1	6,094	4,301
Steclage	10	11.38	10	11.45	10	19.49	10	21.25	American	U. S. Steel Products Co	395.5	55.0	27.0	Baltimore	Honolulu	Miscellaneous	8,665	7,285	5,256
City of Oran	9	17.36	10	13.05	10	20.53	10	22.40	British	Ellerman Lines	464.5	58.1	23.10	New York	Shanghai	General	6,817	9,533	7,417
Laura C. Hall[3]	9	17.47	11	6.26	11	13.19	12	13.22	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	9	132	72
F. H. Hillman	11	10.45	11	10.55	11	18.03	11	18.58	American	Standard Oil Co	500.0	68.2	20.0	Philadelphia	San Francisco	Ballast		11,225	7,913
Ruysdael	11	12.35	11	13.05	11	20.35	11	22.55	British	Bolton Steamship Co	401.0	51.0	23.6	Newcastle	Callao	Coal and coke	5,064	5,195	3,734
Edward Luckenbach	11	16.33	12	6.25	12	13.59	12	15.01	American	Luckenbach Line	436.0	57.0	25.0	Philadelphia	Los Angeles	General, steel	6,373	8,543	6,427
Ensley City	11	19.12	12	7.05	12	15.00	12	16.12	American	Isthmian Steamship Line	395.5	55.0	27.6	New Orleans	Kobe	Steel rails, etc.	7,772	7,285	5,256
Minnesotan	11	15.48	12	8.25	12	16.02	12	17.18	American	American-Hawaiian Line	407.0	53.7	24.2	Boston	Los Angeles	General	4,819	7,150	4,913
Ganymedes	11	10.05	12	9.16	12	17.42	12	18.58	Dutch	Royal Netherlands W. I. Mail	340.0	48.0	14.6	Hamburg	Talcahuano	General	1,740	4,214	3,123
Mantaro	5	15.04	12	10.58	12	19.07	12	20.14	Peruvian	Peruvian Line	367.3	46.0	19.0	Cristobal	Callao	General	378	4,838	2,959
West Jappa	12	9.57	12	12.55	12	19.57	12	20.40	American	Swayne & Hoyt (S. B.)	410.5	54.2	24.8	Buenos Aires	San Francisco	(5)		7,467	6,755	4,873
Cara[4]			12	7.15	12				American	Mitchell Hedges				Cristobal	Balboa	Ballast			

[1] Motor ship. [2] Tug. [3] Motor schooner. [4] Launch. [5] Bones, fertilizer, coffee, hides, and outs.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Ballena	5	19.00	6	6.49	6	14.35	7	12.30	British	Pacific Steam Navigation Co	400.1	53.0	24.0	Punta Arenas	London	General	6,046	5,927	4,178
D. Wiegland	6	9.30	6	10.38	6c	18.20	6	21.05	German	Roland Line	393.4	54.0	24.0	Corral	Antwerp	General	6,384	6,573	4,629
Iwate	5	8.00	7	7.03	7	14.11	10	15.05	Japanese	Japanese Government	434.0	68.7	26.0	San Pedro	South America				
Asama	5	8.00	7	7.59	7	15.25	10	15.05	Japanese	Japanese Government	434.0	68.7	27.5	San Pedro	South America				
Idzumo	5	8.00	7	8.59	7	16.38	10	15.05	Japanese	Japanese Government	434.0	68.7	26.0	San Pedro	South America				
San Joaquin	4	15.45	7	9.44	7	16.55	7	16.59	Norwegian	W. Wilhelmsen	425.0	57.1	26.5	Los Angeles	Tampico	Oil	9,300	7,059	5,043
Anglo Mexican	6	19.00	7	10.48	7	18.35	7	21.35	British	Lawter Tatta & Co	394.0	52.4	25.6	San Francisco	Cristobal	Barley	7,320	6,163	4,452
Osterndorf	7	17.00	7	11.51	8	11.31	8	12.02	German	Vinnen Gebouder	311.0	45.0	19.10	Champerico	Hamburg	Sugar, coffee	3,326	3,411	2,496
Pennsylvanian	30	1.12	7	14.11	7	21.35	8	14.05	American	American-Hawaiian Line	416.2	53.6	28.2	Seattle	Hamburg	General	8,039	7,107	4,916
Durban Maru	8	0.06	8	8.01	8	15.55	8	15.55	Japanese	Nippon Yusen Kaisha	420.0	56.0	21.6	Manila	New York	General	7,543	7,445	5,345
Alsace	3	8.30	8	8.30	9	1.03	11	6.20	French	M. Volonssiere & Co	188.11	39.0	19.0	Potosi	Havre	Dyewood	1,087	1,140	854
Alvarado	9	3.30	9	7.33	9	14.50	10	18.00	British	McAndrews & Co	303.0	43.0	16.4	Guayaquil	New York	General	1,225	2,843	1,748
K. J. Luckenbach	9	2.00	9	7.58	9	15.25	9	15.25	American	Luckenbach Line	470.0	57.0	28.0	San Francisco	Boston	General, lumber	8,000	8,552	6,236
Saint Andre	8	15.40	9	8.14	9	16.38	10	12.05	French	General Transatlantic	397.9	50.5	27.0	Caleta Buena	Santander	Nitrate	6,800	5,917	4,146
Santa Clara	9	5.25	9	8.31	9	17.05	9	18.55	American	Atlantic & Pacific Steamship Co.	404.6	53.9	23.5	Iquique	Baltimore	Nitrate	8,500	6,759	4,503
Robin Goodfellow	9	7.30	9	9.11	9	17.39	9	17.39	American	Seas Shipping Co	424.8	55.2	24.0	Los Angeles	New York	Lumber		7,473	5,536
Laura C. Hall[3]	9	5.00	9	9.57	9	17.49	11	6.26	British	Pacific Metals Corp	81.0	26.0	1.0	Buenaventura	Cristobal	Coffee, drums	71	132	72
Rimutaka	9	12.20	10	7.01	10	15.05	10	22.36	British	New Zealand Shipping Co	458.0	58.0	24.6	Wellington	London	Cold storage	4,500	9,125	8,627
West Haven	9	3.15	10	7.46	10	17.06	10	17.06	American	Atlantic Gulf & Pacific Co	409.6	54.2	24.6	Seattle	Baltimore	General, lumber	7,781	6,665	5,020
Acme	10	1.00	10	8.50	10	15.53	10	15.53	American	Standard Transport Co	435.0	56.0	18.6	Shanghai	New York	Ballast		7,405	5,166
Trontolite	10	8.40	10	9.36	10	15.38	10	17.38	American	Standard Oil Co	419.0	57.0	25.0	Talara	New York	Naphtha	8,339	7,344	5,384
Gladiator	10	11.45	10	12.34	10	20.21	10	21.36	British	T. & J. Harrison	409.0	52.0	23.6	Vancouver	Liverpool	General	7,800	6,434	4,741
Sciota[6]			11	10.47	11	17.00			American	U. S. Navy	149.0	30.0		Balboa	Cristobal				
Huasco	10	22.00	12	7.15	12	14.10			Chilean	Chilean Line	380.0	44.0	21.0	Talcahuano	Cristobal	General	2,024	4,552	3,182
Santa Tecla	10	12.50	12	8.09	12	14.52	12	21.10	American	Grace Line	298.6	40.0	15.0	Supe	New York	General	755	2,832	1,803
Bratsberg	11	16.45	12	8.52	12	16.30	12	18.32	Norwegian	A. S. Bergstad	346.0	49.6	22.6	Portland	Montreal	Lumber	5,000	4,263	3,042
Pacific	11	22.15	12	10.03	12	17.15	13	11.00	American	Argonaut Steamship Co	399.7	56.2	24.0	Honolulu	Boston	Pineapple (case)	6,000	6,479	4,709
Agwidale	12	3.50	12	10.35	12	17.50	12	20.25	American	Mallory Steamship Co	370.0	53.0	27.6	Grays Harbor	New York	Lumber	4,720	5,527	4,138
Carmarthenshire	12	8.00	12	10.55	12	19.25	13	6.35	British	Royal Mail Steam Packet Co	470.0	58.0	27.10	Vancouver	Liverpool	General	7,950	9,679	7,061
Adour	12	8.50	12	12.50	12	20.22	12	22.37	Norwegian	K. Selvesen	310.0	44.6	22.0	Caleta Buena	Jacksonville	Nitrate	4,708	3,550	2,595
Virginian	12	14.05	12	14.43	12	22.30	14	5.25	American	American-Hawaiian Line	491.5	52.8	26.8	Seattle	Hamburg	General	9,000	10,491	7,546

[6] U. S. Navy tug.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
August 6	Abangarez	United Fruit Co	New Orleans via Habana.
August 6	Pastores	United Fruit Co	Port Limon.
August 6	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.
August 7	Parismina	United Fruit Co	New Orleans.
August 8	Ulua	United Fruit Co	New York via Habana.

*DEPARTURES.

Date.	Vessel.	Line.	For—
August 6	Pastores	United Fruit Co	New York via Habana.
August 6	William Green	Pan-American Pet. Transp. Co	Tampico.
August 7	Bravo[7]	Mexican Government	Port-of-Spain.
August 7	Coahuila	Mexican Government	Port-of-Spain.
August 7	Abangarez	United Fruit Co	Bocas del Toro.

[7] Mexican gunboat.

(Continued on page 12, column 2.)

Commercial Traffic Through the Panama Canal in July, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States coastwise:							*Long tons.*
United States	31	120,694	155,758	193,620	120,173	$145,346.51	150,379
From east coast of United States to Far East:							
British	9	42,760	49,790	61,184	39,489	53,296.85	67,444
United States	7	27,041	35,097	41,961	27,203	33,755.40	55,744
Japanese	4	16,432	19,532	24,820	16,195	20,350.70	25,459
Norwegian	2	7,536	9,045	12,237	7,615	9,420.00	14,786
Totals	22	93,769	113,464	140,202	90,502	116,822.95	163,433
From east coast of United States to west coast of South America:							
British	7	19,166	23,532	32,077	20,410	20,921.19	8,785
United States	5	13,359	16,931	21,940	13,351	14,850.63	9,900
Norwegian	2	2,678	3,131	4,080	2,484	2,604 27	1,089
Totals	14	35,203	43,594	58,097	36,245	38,376.09	19,774
From Europe to west coast of United States:							
British	4	14,586	18,160	21,461	13,678	17,282.85	19,463
United States	3	18,537	22,679	28,210	18,523	19,432.98	4,940
Swedish	2	6,885	10,917	11,304	8,451	8,606.25	16,388
French	1	4,874	5,001	6,687	4,236	6,001.20	800
Japanese	1	3,934	4,530	6,515	3,848	3,261.60	.....
Totals	11	48,816	61,287	74,177	48,736	54,584.88	41,591
From Europe to west coast of South America:							
British	3	11,488	14,833	18,669	11,585	14,360.00	9,065
German	3	9,869	11,732	13,346	8,139	12,326.45	7,911
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	3,280
Norwegian	1	4,133	4,166	5,122	3,164	5,114.40	5,274
Italian	1	3,331	4,287	5,850	3,646	4,163.75	1,984
Totals	10	32,913	41,296	49,620	30,576	41,079.60	27,514
From Cristobal, C. Z., to west coast of South America:							
Chilean	3	5,071	8,827	10,165	6,160	6,338.75	1,575
British	3	1,262	1,648	2,280	1,365	1,577.50	585
Peruvian	2	2,495	5,356	8,049	4,187	3,118.75	584
Totals	8	8,828	15,831	20,494	11,712	11,035 00	2,744
From east coast of United States to Australasia:							
British	4	21,024	27,902	33,338	21,100	26,280.00	24,022
United States	1	4,445	4,415	5,838	4,493	5,301.60	6,503
Totals	5	25,469	32,317	39,176	25,593	31,581.60	30,525
From Cristobal, C. Z., to west coast of Central America:							
British	4	2,966	3,364	5,204	3,036	3,348.11	2,496
From Europe to west coast of Canada:							
British	3	20,227	27,813	37,905	22,376	24,815 35	4,913
From Europe to Australasia:							
British	3	17,624	20,122	27,318	17,567	21,790.05	15,741
From east coast of Mexico to west coast of South America:							
British	3	14,068	15,812	23,037	13,634	17,585.00	29,590
From east coast of United States to west coast of Canada:							
United States	2	7,784	10,969	12,719	7,769	9,730.00	15,589
Norwegian	1	2,519	3,180	3,779	2,391	3,148.75	4,702
Totals	3	10,303	14,149	16,498	10,160	12,878.75	20,291
From Cristobal, C. Z., to west coast of United States:							
United States	2	3,194	3,799	5,322	3,171	3,992.50	2,781
From east coast of South America to Far East:							
Japanese	1	3,684	4,241	5,850	3,642	4,605.00	5,287
From South Africa to west coast of Canada:							
British	1	3,655	4,856	5,270	3,314	3,496.32	.....

ATLANTIC TO PACIFIC—Continued.

Route and registry.	No of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From West Indies to west coast of Canada:							*Long tons.*
British	1	3,161	4,105	4,913	3,138	$3,951.25	6,300
From east coast of Canada to Australasia:							
British	1	3,513	4,160	5,454	3,340	4,391.25	5,911
From east coast of Mexico to Far East:							
British	1	3,466	4,320	5,857	3,476	4,332.50	7,449
From east coast of Mexico to Balboa, C. Z.:							
British	1	2,412	3,161	3,847	2,357	3,015.00	5,058
From Cristobal, C. Z., to Balboa, C. Z.:							
Panaman	1	52	52	79	72	62.40	.....
From east coast of United States to west coast of Central America:							
United States	1	719	730	818	708	888.00	635
From east coast of United States to Balboa, C. Z.:							
Argentinian	1	.....	.....	.....	.....	1,240.00	.....
Totals, July, 1922	128	454,736	574,231	722,758	453,528	549,218.11	542,412
Totals, June, 1922	135	476,105	594,196	752,082	479,291	571,161.36	586,377
Totals, July, 1921	105	324,330	403,051	508,670	321,763	405,220.18	258,440

PACIFIC TO ATLANTIC.

United States coastwise:							*Long tons.*
United States	25	98,892	126,894	154,600	100,130	$123,615.00	153,052
From west coast of United States to Europe:							
Japanese	9	39,117	41,339	54,731	38,339	47,829.25	70,048
British	5	16,929	18,980	24,017	15,252	20,987.00	32,922
United States	2	8,971	11,022	14,446	8,980	11,213.75	16,400
Norwegian	2	6,776	7,642	9,755	5,976	8,314.70	13,386
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,960
Totals	19	74,046	83,002	106,694	71,405	91,160.95	138,716
From west coast of South America to east coast of United States:							
United States	9	34,904	41,874	57,221	35,014	43,291.40	75,932
British	2	6,218	7,941	10,944	6,612	7,772.50	5,423
Swedish	2	2,689	2,857	4,573	3,213	3,361.25	5,416
Totals	13	43,811	52,672	72,738	44,839	54,425.15	86,771
From west coast of South America to Europe:							
British	8	31,044	37,647	50,362	31,163	38,805.00	43,657
United States	1	4,472	6,457	7,035	4,390	5,590.00	10,352
French	1	3,566	4,081	5,681	3,600	4,457.50	6,735
Italian	1	3,339	4,266	5,860	3,486	4,173.75	6,417
German	1	2,550	3,392	4,177	2,588	3,187.50	5,904
Dutch	1	2,012	3,120	3,209	1,989	2,515.00	3,786
Totals	13	46,983	58,963	76,324	47,216	58,728.75	76,851
From Far East to east coast of United States:							
United States	6	27,925	38,053	44,984	27,868	34,906.25	33,466
Japanese	3	11,351	14,441	18,521	11,308	14,188.75	19,130
British	2	8,549	9,736	10,465	6,759	9,569.77	5,250
Totals	11	47,825	62,230	73,970	45,935	58,664.77	57,846
From west coast of South America to Cristobal, C. Z.:							
Chilean	3	4,535	7,801	9,096	3,521	5,668.75	1,321
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	4,582
British	3	1,262	1,648	2,280	1,374	1,577.50	1,165
Totals	9	9,496	17,191	23,828	13,172	11,870.00	7,068
From Australasia to Europe:							
British	6	30,730	36,851	47,700	29,932	38,412.50	36,769

PACIFIC TO ATLANTIC—Continued.

Route and registry.	No of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From Australasia to east coast of United States:							*Long tons.*
British	3	11,548	13,750	18,807	11,652	$14,435.00	7,905
United States	2	8,134	9,041	11,656	8,101	9,978.20	6,457
Totals	5	19,682	22,791	30,463	19,753	24,413.20	14,362
From west coast of Canada to Europe:							
British	2	9,133	12,427	11,012	12,635	11,416.25	17,520
Japanese	2	7,806	9,041	11,340	7,663	9,757.50	14,766
United States	2	6,597	9,831	10,783	6,582	8,246.25	14,152
Dutch	1	4,547	7,056	7,310	4,495	5,683.75	9,646
Totals	7	28,083	38,355	40,445	31,375	35,103.75	56,084
From west coast of Canada to east coast of United States:							
United States	4	11,999	16,418	18,951	12,006	14,998.75	20,892
From west coast of South America to east coast of Mexico:							
British	2	9,423	10,501	15,767	9,121	7,560.72	.....
United States	1	4,203	5,041	6,703	4,203	3,629.52	.....
Totals	3	13,626	15,542	22,470	13,324	11,190.24	.....
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,495	1,724	2,618	1,544	1,868.75	1,470
From Australasia to east coast of Canada:							
British	1	4,403	5,494	7,178	4,413	5,503.75	1,500
From west coast of United States to east coast of South America:							
United States	1	3,522	4,914	5,652	3,522	4,402.50	2,656
From west coast of Mexico to Europe:							
Spanish	1	3,031	3,437	4,648	2,877	3,788.75	6,513
From west coast of South America to North Africa:							
British	1	2,492	3,839	4,005	2,533	3,115.00	6,343
From west coast of Mexico to east coast of Canada:							
United States	1	1,586	1,730	2,559	1,586	1,982.50	1,137
From west coast of United States to Cristobal, C. Z.:							
United States	1	1,332	1,593	2,153	1,309	1,665.00	658
Totals, July, 1922	123	443,034	553,640	696,996	446,871	544,909.31	668,688
Totals, June, 1922	93	297,693	376,517	475,956	297,119	361,129.06	391,101
Totals, July, 1921	101	328,109	407,562	514,132	328,605	399,282.93	450,542

Notice to Mariners.—Colombia—Savanilla Harbor—Hydrographic Information.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 5, 1922.

The master of the American steamer *Tivives* reports as follows, under date of July 12, 1922, concerning the port of Savanilla:

The section of Puerto Colombia pier available for berthing has been lengthened to 1,000 feet. For the outer 500 feet on both sides the depths vary from 27 to 25 feet; for the inner section of 500 feet the depths vary from 25 to 21½ feet at mean low water.

Lafayette Rock now has a depth of 26 feet over it. The searchlight on Puerto Colombia pier is out of commission and the fixed red light on the outer end of the pier is no longer exhibited.

A gas buoy is to be established at the stern of the wrecked German steamer.

At present the best range for entering and coming to the anchorage is Lafayette Rock Light buoy in one with Cupino Beach light.

The 3¾-fathom bank southwestward of Belillo Point is reported not to exist.

JAY J. MORROW,
Governor.

Postal Address of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

Supplement No. 2 to Tariff No. 6.—Pilotage.—Coal.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., August 5, 1922.

ITEM 3—PILOTAGE.

(Effective July 29, 1922.)

9. Vessels transiting the Canal and making a substantial reduction in favor of Panama Canal and Panama Railroad employees from regular passenger rates charged by such vessels between the Isthmus and United States ports, will not be charged pilotage solely by reason of embarking or disembarking passengers and their baggage, when such passengers are employees of The Panama Canal or Panama Railroad Company.

ITEM 21—COAL.

(Effective August 16, 1922.)

11. Special prices for coal in large quantities are hereby canceled.

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 14, 1922.

On August 9, at 12.30 a. m., the steamship *Robin Adair* passed a derelict schooner awash, about 150 feet long, latitude 13° 54′ North, longitude 98° 23′ West.

Very dangerous to navigation.

JAY J. MORROW,
Governor.

Executive Order.—Conditions of Employment.[1]

By virtue of authority vested in me, the Executive Order of December 3, 1921, prescribing the basis for making charges against employees of The Panama Canal and Panama Railroad on the Isthmus of Panama for rent, fuel, electric current, water, and services in connection with the use of quarters, on and after January 1, 1922, is hereby amended effective July 1, 1922, so as to authorize the Governor of The Panama Canal, with the approval of the Secretary of War, to prescribe a lower rate of charges for official and other quarters which officers and employees of The Panama Canal and Panama Railroad Company are required to occupy by reason of the office held or the duties performed by them, this to apply only in cases in which the rate of pay to the employee is substantially what it was in 1914.

WARREN G. HARDING.

THE WHITE HOUSE,
July 17, 1922.

[1] Published as Panama Canal circular No. 601-131.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended August 14:

Steamships *Ville de Tamative*, repair and renew part of ceiling in bunker damaged by fire; electric weld crack in center boiler; *Colon*, furnish 20 men with air tools to scale, etc., in the upper and lower 'tween decks; renew part of sanitary pipe; clear scupper and renew strainer; electric weld stay in port boiler; *Mineola*, repair ice machine; *Virginian*, repair copper heater coil and renew 1 boiler tube and calk stay; tug *Tavernilla*, repair towing machine, circulating pump, fuel oil pumps, and guards; overhaul feed pumps, capstan engine, all boiler mountings and valves in engine room; repair H. P. crosshead guide and refit slipper; manufacture and fit new piston rings in H. P. and L. P. cylinders and new valve rings in H. P. valve; test and clean main condenser and clear suction and discharge pipes; install spare motor for ice machine; renew deck by after bitts and calk main deck; renew foremast; scale and clean main boilers, etc.; motor schooner *Laura C. Hall*, repair exhaust pipe; manufacture new gasoline tank; drill out and replace studs for manhole; steamships *Jamaica*, *Parismina*, *Carrillo*, launch *Activo*, and U. S. S. Eagle *No. 31*, minor repairs.

Fuel Oil at Pacific Ports.

The Union Oil Company of California advises that there has been a further reduction in price of fuel oil at the following ports, and present prices, per barrel, are: Seattle and Portland, $1.25; Honolulu, $1.40.

Financial Receipts and Disbursements, May, 1922.

BALBOA HEIGHTS, C. Z., July 25, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: Herewith is a report showing commissary sales, financial receipts, and expenditures, and cash balance available in The Panama Canal appropriations for the month of May, 1922, as compared with the preceding month, and with the corresponding month of last year:

	May, 1922.	April, 1922.	May, 1921.
Cash balance available for expenditure in Canal appropriations on last day of month	$11,299,502.29	$11,610,223.49	$7,051,969.56
Payments made from appropriations:			
By Paymaster on the Isthmus	858,786.31	893,590.92	1,416,780.45
By Disbursing Clerk, Washington, D. C.	107,148.72	54,084.74	542,139.41
To the Panama Railroad (for commissary books)	174,577.63	177,321.61	279,967.38
Collections on the Isthmus:			
Repaid to appropriations	465,757.51	724,527.71	864,120.60
Commissary and other trust funds	61.75	179,578.57	281,797.79
Tolls	1,015,070.12	953,293.96	835,914.57
Sales of water	.....	2,874.90	6,930.25
Postal receipts	9,621.25	9,131.16	9,007.50
Licenses, taxes, court fees, fines, etc	2,078.77	2,791.90	3,614.56
Total collections on the Isthmus	1,492,589.40	1,872,198.20	2,002,735.27
Collections by the Disbursing Clerk, Washington, D. C.	45,068.59	25,228.17	1,682.49
Deposits with the Assistant Treasurer, United States	46,853.95	41,266.25	33,600.00
Canal Zone and miscellaneous funds:			
Receipts—			
Money order funds	102,399.18	135,890.32	147,367.82
Trust funds	418.09	123.44	2,650.02
Clubhouse funds	31,647.75	32,384.61	23,475.45
Treasury Savings Certificate funds	42,430.00	.....	.....
Interest	1,453.04	1,364.13	1,935.48
Total receipts	178,348.06	169,762.50	175,428.77
Disbursements:			
Money order funds	172,700.00	106,500.00	166,300.00
Trust funds	.....	315.76	2,978.21
Clubhouse funds	14,933.31	24,894.43	39,995.50
Interest	26,250.29	719.64	1,154.02
Postal savings	.....	250.00	.....
Treasury Savings Certificate Fund	45,440.00	.....	.....
Total disbursements	259,323.60	132,679.83	210,427.73
Pay roll on the Isthmus:			
Maintenance and operation	602,872.93	596,643.30	896,650.43
Sanitation	70,455.86	69,741.60	86,488.95
Civil Government	68,109.98	65,745.80	69,910.80
Totals	741,130.70	732,130.70	1,053,050.18
Sales of commissary supplies:			
To The Panama Canal	55,604.11	72,814.34	100,507.44
To vessels other than those of the U. S. Government and Panama Railroad Co.	20,166.70	33,681.25	45,385.75
To the Panama Railroad Co., including its steamships and Hotel Washington	17,337.18	17,510.44	15,672.15
To the U. S. Government, including the Army and Navy	84,248.79	84,270.46	128,012.49
To individuals and companies through charge accounts	38,227.74	24,503.46	21,899.98
To individuals purchasing coupons	315,007.42	324,762.06	430,276.92
Totals	530,591.94	557,542.01	741,754.73

Respectfully,

JAY J. MORROW,
Governor.

Financial Receipts and Disbursements, June, 1922.

BALBOA HEIGHTS, C. Z., August 4, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: Herewith is a report showing commissary sales, financial receipts, and expenditures, and cash balance available in The Panama Canal appropriations for the month of June, 1922, as compared with the preceding month, and with the corresponding month of last year:

	June, 1922.	May, 1922.	June, 1921.
Cash balance available for expenditure in Canal appropriations on last day of month	$11,164,010.49	$11,299,502.29	$6,587,322.64
Payments made from appropriations:			
By Paymaster on the Isthmus	852,957.79	858,786.31	1,320,644.03
By Disbursing Clerk, Washington, D. C.	194,244.20	107,148.72	392,282.07
Collections on the Isthmus:			
Repaid to appropriations	477,814.13	465,757.51	1,129,286.25
Trust funds	82.00	61.75	266,278.17
Tolls	932,300.62	1,015,070.12	751,967.12
Sales of water	.....	.....	3,375.05
Licenses, taxes, court fees, fines, etc.	2,538.91	2,078.77	3,913.61
Postal receipts	9,261.06	9,621.25	10,612.03
Interest on bank balances	25,000.00	.....	25,000.00
Total collections on the Isthmus	1,446,996.72	1,492,589.40	2,190,432.23
Collections by the Disbursing Clerk, Washington, D. C.	132,912.03	45,068.59	170,695.05
Deposits with the Assistant Treasurer, United States	41,816.25	46,853.95	40,405.00
Canal Zone and miscellaneous funds:			
Receipts—			
Money order funds	103,232.55	102,399.18	119,891.93
Trust funds	21.50	418.09	2,090.43
Clubhouse funds	31,344.42	31,647.75	48,156.81
Treasury Savings Certificate funds	43,510.00	42,430.00	.....
Interest	6,221.95	1,453.04	1,845.65
Total receipts	184,333.42	178,348.06	171,984.82
Disbursements:			
Money order funds	131,284.65	172,700.09	190,690.00
Trust funds	2,047.96	.....	1,450.78
Clubhouse funds	24,371.40	14,933.31	30,811.28
Treasury Savings Certificate funds	.....	45,440.00	.....
Interest	990.08	26,250.29	25,000.00
Total disbursements	158,694.09	259,323.60	247,862.06
Payroll on the Isthmus:			
Maintenance and operation	605,672.33	602,860.95	892,575.90
Sanitation	72,704.00	70,455.86	86,041.44
Civil Government	65,949.22	68,109.98	69,755.26
Totals	744,325.55	741,426.79	1,048,372.60
Sales of commissary supplies:			
To The Panama Canal	57,642.98	55,604.11	106,708.70
To vessels other than those of the U. S. Government and Panama Railroad Co.	23,747.18	20,166.70	42,149.02
To the Panama Railroad Co., including its steamships and the Hotel Washington	18,116.51	17,337.18	19,911.64
To the U. S. Government, including the Army and Navy	108,086.15	84,248.79	143,339.69
To individuals and companies through charge accounts	36,394.10	38,227.74	22,972.02
To individuals purchasing coupons	302,985.92	315,007.42	389,156.00
Totals	546,972.84	530,591.94	724,237.07

Respectfully,

JAY J. MORROW,
Governor.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Three Weeks Ending August 12, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Essequibo	Pacific Steam Navigation Co		July 23		7
Lobos	Pacific Steam Navigation Co	July 23	July 23	(1)	396
Turrialba	United Fruit Co	July 23	July 24	(1)	127
Gen. W. C. Gorgas	Panama Railroad Steamship Line	July 23	July 29	1,657	229
Cartago	United Fruit Co	July 24	July 27	900	(3)
Huallaga	Peruvian Line	July 24		1,632	
Cauca	Pacific Steam Navigation Co	July 24	July 28	1,005	(3)
Ansaldo San Giorgio I	National Navigation Society		July 25		202
Ansaldo San Giorgio II	National Navigation Society	July 25	July 26	121	(3)
Calamares	United Fruit Co	July 25	July 26	206	58
San Juan	Pacific Mail Steamship Co	July 25	July 29	658	1,991
Metapan	United Fruit Co	July 26	July 27	251	140
Laura C. Hall	Pacific Metals Corp	July 26	July 27	61	9
Palena	Chilean Line		July 27		726
Balboa	Johnston Line	July 27	July 28	79	(3)
Ebro	Pacific Steam Navigation Co	July 27	July 27	35	666
Turrialba	United Fruit Co	July 27	July 27	(2) 100	4
Tivives	United Fruit Co	July 27	July 27	1½	2
Venezuela	Royal Netherlands W. I. Mail	July 27	July 28	465	(3)
Eupatoria	Hamburg-American Line	July 27	July 28	3	8
Imperial	Chilean Line	July 28		255	
Salvador	Pacific Steam Navigation Co	July 28		858	
Oriana	Pacific Steam Navigation Co	July 28	July 28	(1)	(2) 200
Colombia	Pacific Mail Steamship Co	July 28	July 29	340	245
Solana	Pacific Mail Steamship Co	July 28		9,000	
Ares	Royal Netherlands W. I. Mail	July 29		176	
Antillian	Leyland Line	July 29		525	
Salvador	Pacific Steam Navigation Co		July 30		230
Ares	Royal Netherlands W. I. Mail		July 30		15½
Calamares	United Fruit Co	July 30	July 30	½	82
Atenas	United Fruit Co	July 30	July 31	(1)	244
Acajutla	Pacifid Steam Navigation Co	July 30	August 5	465	760
Venezuela	Royal Netherlands W. I. Mail	July 31	August 1	20	1,988
Antillian	Leyland Line		August 1		1,010
Huallaga	Peruvian Line		August 1		630
Imperial	Chilean Line		August 1		278
Heredia	United Fruit Co	July 31	August 3	725	(3)
Puerto Rico	French Line	July 31	August 3	35	378
Pastores	United Fruit Co	August 1	August 2	231	246
Panama	Panama Railroad Steamship Line	August 2		1,809	
Sixaola	United Fruit Co	August 2	August 3	55	251
Atenas	United Fruit Co	August 3	August 3	(1)	97
Annam	Danish East Asiatic Co	August 3	August 3	(1)	34
Metapan	United Fruit Co	August 3	August 3	(1)	2¼
Cauca	Pacific Steam Navigation Co	August 3		497	
Almagro	Pacific Steam Navigation Co	August 3	August 4	26	126
Mantaro	Peruvian Line	August 5		1,718	
Conde de Churruca	Anglo-Saxon Petroleum Co	August 5		6,150	
William Green	Huasteca Petroleum Co	August 5		9,800	
Ecuador	Pacific Mail Steamship Co	August 5		176	
Camden	United Fruit Co	August 5		8,904	
Ecuador	Pacific Mail Steamship Co		August 6		250
Pastores	United Fruit Co	August 6	August 6	14	73
Abangarez	United Fruit Co	August 6	August 7	(1)	89
Tongking	Danish East Asiatic Co	August 6	August 7	¼	(3)
Ballena	Pacific Steam Navigation Co	August 6	August 7	150	137
Stuyvesant	Royal Netherlands W. I. Mail	August 6	August 8	7	(3)
Salvador	Pacific Steam Navigation Co	August 7	August 8	61½	68
Italia	N. O. & S. A. S. S. Line	August 7	August 7	20	(3)
Advance	Panama Railroad Steamship Line	August 7	August 9	515	139
Parismina	United Fruit Co	August 7	August 10	613	¾
Duendes	Pacific Steam Navigation Co	August 8	August 9	(1)	15
Ulua	United Fruit Co	August 8	August 9	271	37
Panama	Panama Railroad Steamship Line		August 9		1,947
Alvarado	Pacific Steam Navigation Co	August 9	August 9	398	680
Laura C. Hall	Pacific Metals Transp. Co	August 9	August 10	71	2
Saint Andre	French Line	August 9	August 10	40	52
Carrillo	United Fruit Co	August 9	August 10	51	163
Sixaola	United Fruit Co	August 9	August 10	2	½
Abangarez	United Fruit Co	August 10	August 10	4	125
Buenos Aires	Spanish Line	August 10	August 12	184	238¾
Alexandrian	Leyland Line	August 11		565	
Caledonia	N. O. & S. A. S. S. Line	August 11	August 12	(2) 224	54
Ganyledes	Royal Netherlands W. I. Mail	August 11	August 12	157	¼
Stuyvesant	Royal Netherlands W. I. Mail	August 11	August 12	(1)	19
Mantaro	Peruvian Line		August 12		380
Santa Tecla	Grace Line	August 12	August 12	20	74
Huasco	Chilean Line	August 12		47	
Alaska	French Line	August 12		104	

(1) No cargo discharged. (2) Pounds. (3) No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Three Weeks Ending August 12, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Sinaloa	A. O. Lindvig	July 20	July 26		1,552
Rosana	Alberto Fait	July 23	July 28	300	
Cauca	Pacific Steam Navigation Co	July 24	July 24	13	
San Juan	Pacific Mail Steamship Co	July 24	July 25	60	
Manavi	Pacific Steam Navigation Co	July 25	July 25		18
Anyo Maru	Toyo Kisen Kaisha	July 25	July 25		21
Laura C. Hall	Pacific Metals Transp. Co., Ltd	July 25	July 25	4	
Cambrai [1]	U. S. Army	July 25	July 25	16	
Regulus	A. O. Lindvig	July 25	July 27		708
Ansaldo San Giorgio II	Societa Nazionale di Navigazione	July 26	July 26	84	
Laura C. Hall	Pacific Metals Transp. Co., Ltd	July 27	July 27		70
Colombia	Pacific Mail Steamship Co	July 28	July 28	135	
Depere	U. S. Shipping Board	July 28	July 28	13	76
Eldena [1]	U. S. Army	July 28	July 28		200
Salvador	Pacific Steam Navigation Co	July 28	July 28	7	
Balboa	Johnson Line	July 29	July 29	263	
San Juan	Pacific Mail Steamship Co	July 29	July 29		13
Chaumont [1]	U. S. Army	July 30	August 1	3	
Nagato Maru	Nippon Yusen Kaisha	August 2	August 3	230	
Argonne [1]	U. S. Army	August 3	August 3	7	
San Joaquin	Wilhelm Wilhelmsen	August 4	August 6	9,300	
Ecuador	Pacific Mail Steamship Co	August 6	August 6	5	12
Garfield	Grace Line	August 6	August 7		40
Italia	Swedish Lloyds	August 6	August 7	21	330
Salvador	Pacific Steam Navigation Co	August 8	August 8		11
Laura C. Hall	Pacific Metals Transp. Co., Ltd	August 8	August 9	5	
Huasco	Chilean Line	August 11	August 12	165	
Santa Tecla	Grace Line	August 11	August 12	20	
Laura C. Hall	Pacific Metals Transp. Co	August 12	August 12		60

[1] U. S. Army Transport.

Panama Railroad Steamship Line.

Proposed sailings of Panama Railroad vessels:

Steamer.	Leave New York.	Arrive Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Colon	August 5	August 10	August 13	August 19	August 22	August 26.
Gen. W. C. Gorgas	August 15	August 21	August 24	August 29	September 1	September 6.
Panama	August 25	August 30	September 2	September 9	September 12	September 16.
Colon	September 5	September 10	September 13	September 19	September 22	September 26.
Gen. W. C. Gorgas	September 15	September 21	September 24	September 29	October 2	October 7.
Panama	September 25	September 30	October 2	October 9	October 12	October 16.

Deceased Employees.

The estates of the following deceased employees of The Panama Canal or The Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	Check No.	Native of—	Isthmian residence.	Employed by—	Date of death.
Frank Keegan	2315	United States	Balboa	Mechanical Division	October 11, 1921.
Albert Irvin	2010	United States	Panama	Mechanical Division	July 22, 1922.
William McGuire	703	United States	Pedro Miguel	Police and Fire Division	July 20, 1922.
Maxine Rivierre	34309	Guadeloupe	Panama	Dredging Division	June 28, 1922.
Claudius L. Gooding *alias* Goodman	38476	Barbados	Panama	Mechanical Division	June 30, 1922.
Adrian Sebastian Albert	58330	Guadeloupe	Panama	Health Department	July 1, 1922.
John Roberts	23115	Jamaica	Colon	Coaling Station	July 1, 1922.
Prince Hunt	31424	Barbados	Red Tank	Electrical Division	July 11, 1922.
William Aird	22405	Grenada	Panama	R. and F. Agent	July 14, 1922.
Hipolite Beauchamp	58110	Martinique	Colon	Mechanical Division	July 18, 1922.
James Benn (Bend)	20222	Barbados	La Boca	Supply Department	July 21, 1922.
Benjamin Thompson	36937	Jamaica	La Boca	Mechanical Division	July 22, 1922.
Charles Williams	60489	Jamaica	Panama	Pacific Locks	July 27, 1922.
Francis Felix	30308	St. Lucia	Panama	Health Department	July 30, 1922.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for $1.70 per barrel of 42 gallons.

Diesel oil is sold at $3.50 per barrel.

Coal is supplied to steamships, including war ships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal Panama;" in the United States, "Pancanal Washington."

MOVEMENTS OF OCEAN VESSELS.—Continued from page 3.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
August 9	St. Mihiel[a]	U. S. Army	New York.
August 9	Carrillo	United Fruit Co	New York via Kingston.
August 9	Sixaola	United Fruit Co	Colombian ports.
August 10	Abangarez	United Fruit Co	Bocas del Toro.
August 10	Buenos Aires	Spanish Line	Barcelona via wayports.
August 11	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
August 11	Caledonia	Swedish Lloyds	Puerto Colombia.
August 11	Alexandrian	Leyland Line	Liverpool via wayports.
August 12	Solana	Pacific Mail Steamship Co	Tampico.

[a] U. S. Army transport.

*DEPARTURES.

Date.	Vessel.	Line.	For—
August 8	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
August 9	Ulua	United Fruit Co	Port Limon.
August 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
August 10	Parismina	United Fruit Co	New Orleans via wayports.
August 10	Camden	United Fruit Co	Tampico.
August 10	Carrillo	United Fruit Co	Colombian ports.
August 10	Sixaola	United Fruit Co	New York via Kingston.
August 10	Abangarez	United Fruit Co	New Orleans.
August 11	U. S. S. Galveston	U. S. Navy	Puerto Cortez.
August 11	Caledonia	Swedish Lloyds	New Orleans.
August 12	Buenos Aires	Spanish Line	Puerto Colombia.
August 12	St. Mihiel[a]	U. S. Army	New York via San Juan.
August 12	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.

PORT OF BALBOA.

August 8	Baja California	A. O. Lindvig	Talara.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., August 23, 1922. No. 2.

Panama Canal Traffic in Fiscal Year 1922.

Studies of the traffic through the Panama Canal during the fiscal year ending June 30, 1922, and of the relations of that traffic with the movements in preceding years, are presented in the following pages.

The subjects treated include:

Traffic by trade routes; a comparison of traffic for the fiscal years 1921 and 1922 over the principal trade routes of vessels using the Panama Canal;

Origin and destination of commercial cargo passing through the Panama Canal during the fiscal year 1922;

Commodity statistics, Atlantic to Pacific, fiscal year 1922;

Commodity statistics, Pacific to Atlantic, fiscal year 1922;

Ratio of cargo tonnage to net tonnage of vessels transiting the Panama Canal during the fiscal year 1922;

Length, beam, and draft of vessels through the Panama Canal in the fiscal year 1922;

Summary of commercial traffic through the Panama Canal during the fiscal year 1922 since its opening to commercial traffic;

Commercial traffic through the Panama Canal since its opening, classified by nationality of vessels.

Traffic By Trade Routes.

A comparison of traffic for the fiscal years 1921 and 1922 over the principal trade routes of vessels using the Panama Canal.

The greatest volume of traffic moving over any trade route during the fiscal year 1922 was that between United States coastwise ports; in point of net tonnage, Panama Canal measurement, and in cargo tonnage, traffic over this route was nearly double that of the preceding year.

The cargo tonnage moving over the United States coastwise route was about equally divided between eastbound and westbound cargo. The leading commodities carried in the Atlantic to Pacific coastwise traffic were iron and steel, coal, sulphur, and miscellaneous manufactured articles of all kinds, while the bulk of the cargo from the west coast ports was made up of lumber, canned goods, oil, metals, and fresh and dried fruits.

Second only to the coastwise trade in volume was the traffic to and from the Far East. Considering the Atlantic to Pacific traffic only, the cargo tonnage over this route exceeded the westbound United States coastwise tonnage by approximately 450,000 cargo tons, and was more than 5 times as great as the cargo tonnage over any of the remaining great trade routes. Cargo from the Far East to the United States, through the Canal, was less for 1922 than for 1921, and ranked seventh in point of cargo tonnage of the Pacific-to-Atlantic trade routes. This one-sided Far East trade is due to the fact that many of the outgoing vessels return by way of the Suez Canal, the 'round-the-world cruise affording a better opportunity to pick up a return cargo than the trip back across the Pacific. The outgoing cargo over this route consists mainly of oils, iron and steel, railroad material, machinery, raw cotton and ammonia, while in return the Far East sends sugar, rice, tea, rubber, wool, coconut and vegetable oils.

The third most important trade route through the Canal in point of cargo tonnage was that between European ports and the west coast of the United States. This also is a one-sided trade route, with the bulk of the traffic moving from the Pacific to the Atlantic. In point of cargo tonnage this route exceeded that of any other Pacific-to-Atlantic trade route through the Canal, but the Atlantic-to-Pacific traffic over this route ranked eighth in point of cargo tonnage. Wheat, barley, flour,

lumber, oils, and canned goods made up the bulk of the eastbound traffic over this route while in return Europe sent principally iron, coal, glassware, and miscellaneous small manufactured articles.

Traffic between Europe and the west coast of South America ranked fourth in point of volume and showed a decrease of approximately 30 per cent from that of the preceding year. This decrease was most marked in the traffic from South America to Europe, as the cargo tonnage from Europe to South America was about the same as for the preceding year. South American exports over this route were principally nitrate, barley, raw cotton, cottonseed meal and cake, copper, sugar and ivory nuts, while the more important imports were coal, coke, iron and steel, textiles, olive oil, and small manufactured articles.

Exceeding in volume all other trade routes for the fiscal year 1921, traffic between the east coast of the United States and the west coast of South America dropped off approximately 60 per cent in 1922 and ranked fifth in point of cargo tonnage among the trade routes through the Canal. Cargo tonnage southbound over this route was but little more than 25 per cent of the total cargo for the preceding year. While the slump in the nitrate trade, together with adverse exchange rates and the general business depression were the primary factors in the decreased traffic, South American trade with Europe showed no such a marked decrease. United States exports over this route were chiefly coal, iron and steel, cement, and miscellaneous manufactured goods and in return South America exported nitrate, copper, iron and tin ores, cacao, coffee, and ivory nuts.

Sixth among the trade routes through the Canal in cargo tonnage was that between Australasia and Europe. Traffic over this route also showed a decline from the preceding year, particularly in the Pacific-to-Atlantic trade. In view of the fact that tonnage from Europe to Australasia routed through the Canal showed but a slight decrease from the preceding year, the loss in the Pacific-to-Atlantic trade over this route must be attributed to other factors than a mere falling off in trade. The cost of bunker coal, the opportunity of picking up additional cargo or passengers at ports of call en route home, national interests, etc., might easily be the determining factor in causing a vessel to select the Cape Horn, Cape of Good Hope, or Suez Canal route on her homeward voyage. Outgoing cargo over this route consisted chiefly of coal, iron and steel, machinery, railroad material, textiles, etc., while on return voyages from Australasia the ships carried principally wheat, wool, copra, phosphates, cold storage and food products.

Traffic between the west coast of Canada and Europe and between the west coast of Canada and the east coast of the United States increased greatly during the past year. It is difficult to differentiate in the traffic between the west coast of Canada and the west coast of the United States, as the majority of the vessels in the Canadian traffic also load and discharge cargo at United States ports. Statistics kept year by year, however, in the same manner offer a fair comparison and the fiscal year 1922 shows a very considerable increase over the preceding year.

Traffic between the east coast of Mexico and the west coast of South America was but a little more than one-third that for the preceding year, and consisted entirely of fuel oil shipments from Mexico to South America, with the tankers returning in ballast.

Cargo tonnage carried between Cristobal, Canal Zone, and the west coast of South America also showed a marked decline and was but little more than one-half of the volume carried the preceding year. Practically all of this was cargo transshipped at the Atlantic terminus of the Canal.

Table I, on page 23, shows the number of ships passing through the Canal in 1922, over the principal trade routes, together with their aggregate net tonnage, Panama Canal measurement, and tons of cargo carried.

Origin and Destination of Commercial Cargo Passing Through the Panama Canal During the Fiscal Year 1922.

Tables II and III, on pages 24 and 25 give a much better index as to the actual movement of cargo tonnage in transit through the Canal than can be obtained by a study of the table on trade routes, as vessels often traverse a wide area in picking up and discharging their cargoes.

CARGO FROM THE ATLANTIC TO THE PACIFIC.

Of the total cargo tonnage carried through the Canal from the Atlantic to the Pacific it will be seen that more than two-thirds originated on the Atlantic and Gulf seaboard of the United States. Cargo from the British Isles was next in importance and formed a little more than one-tenth of the whole, and was practically twice the amount of cargo originating from Continental Europe. The east coast of Mexico

furnished approximately one-twelfth of the westbound cargo tonnage through the Canal, practically all of which was fuel oil; this was a marked decrease from 1921, when 18.2 of the total Atlantic-to-Pacific cargo tonnage routed through the Canal originated on the east coast of Mexico.

Of the total Atlantic-to-Pacific cargo routed through the Canal a little more than one-third was destined for the Far East as compared with approximately one-fifth for the preceding year. Cargo routed to the west coast of the United States showed approximately a 50 per cent increase over the fiscal year 1921 and represented 30 per cent of the total westbound cargo. Cargo in transit through the Canal to the west coast of South America represented but one-seventh of the total for the past fiscal year as compared with one-third of the total for the fiscal year 1921. Cargo routed to Australasia through the Canal also showed a decline and the total tonnage was only about two-thirds as great as for the preceding year.

CARGO FROM THE PACIFIC TO THE ATLANTIC.

During the past fiscal year more than one-half of the eastbound cargo routed through the Canal originated on the west coast of the United States, as compared with approximately one-third for the preceding fiscal year. Cargo from the west coast of South America came next in volume and represented approximately one-fourth of the total as compared with two-fifths for the fiscal year 1921. Australasia contributed 8.2 per cent of the total Pacific-to-Atlantic cargo, and the Far East 6 per cent, both showing a loss in cargo tonnage from the preceding year.

Of the total Pacific-to-Atlantic cargo through the Canal, 42.7 per cent was routed to the east coast of the United States, 31.1 per cent to the British Isles, and 22.1 per cent to Continental Europe. More than one-half of the remaining 4 per cent was destined for Cristobal, with the rest scattered.

Commodity Statistics, Atlantic to Pacific.—Fiscal Year 1922.

From the cargo declarations and copies of the ships' manifests submitted, it was possible to classify a little more than 80 per cent of the total cargo in transit through the Canal from the Atlantic to the Pacific; of the 20 per cent unclassified commodities a considerable portion consisted of miscellaneous small manufactured articles of all descriptions, listed as "general."

Commodities carried westbound through the Canal whose combined shipments for the year aggregated 100,000 cargo tons or over, were as follows:

Commodity.	Tons of 2,240 pounds.
Manufactured goods (including iron and steel, railroad material, machinery, textiles, etc.)	1,403,411
Oils (including crude, refined, vegetable, etc.)	988,829
Coal and coke	404,389
Cotton, raw	198,684
Metals, various	174,104
Sugar	155,409
Sulphur	100,449

The above 7 commodities made up more than 60 per cent of the total westbound cargo through the Canal during the past fiscal year.

Detailed commodity statistics, as shown herewith, were not kept prior to January 1, 1921, so that comparative statistics with preceding fiscal years can not be compiled. Comparing the last half of the past fiscal year, however, with the last half of the fiscal year 1921, we have the following:

Commodity.	Last 6 months of fiscal year.—Cargo tons.	
	1921.	1922.
Iron and steel, including all structural material, plates, bars, angles, etc	371,462	742,613
Oil, crude	684,177	270,165
Oil, refined	281,084	268,311
Coal and coke	370,160	235,188
Sugar	80,236	142,604
Metals, various	32,645	110,479
Railroad material	45,929	100,170
Machinery	52,214	88,731
Sulphur	71,014	63,048
Cotton	43,411	45,766

Table IV, on pages 26 to 29, inclusive, give a detailed classification of commodities westbound through the Canal, showing, by geographical districts, the origin and destination of the same.

Commodity Statistics, Pacific to Atlantic.—Fiscal Year 1922.

From the cargo declarations submitted by vessels transiting the Canal eastbound it was possible to classify 93 per cent of the total cargo passing from the Pacific to the Atlantic. Commodities, whose combined shipments for the fiscal year aggregated 100,000 tons or more, were as follows:

Commodity.	Tons of 2,240 pounds.
Wheat	804,736
Lumber	720,622
Nitrate	470,796
Barley	418,234
Canned goods (fish, fruit, vegetables, etc.)	341,601
Oils, various	296,394
Sugar	257,967
Cold storage food products	193,396
Metals, various	179,582
Ores	156,136
Wool	148,103
Flour	130,217

The above 12 commodities comprised more than three-fourths of all the Pacific-to-Atlantic cargo transported through the Canal during the past fiscal year.

Comparing the last 6 months of 1922 with the last 6 months of the preceding fiscal year on shipments of the leading commodities through the Canal, we have the following:

Commodity.	Last 6 months of fiscal year.—Cargo tons.	
	1921.	1922.
Lumber	204,804	477,339
Wheat	385,560	275,419
Nitrate	749,873	228,902
Oils, various	127,971	175,632
Canned goods, various	52,218	128,163
Ores, various	65,638	108,987
Metals	76,065	101,005
Wool	58,070	99,098
Sugar	105,145	92,160
Cold storage food products	186,920	79,916
Barley	95,347	78,100
Coffee	41,258	62,672
Flour	77,310	30,550

Table V, on pages 30 to 34, inclusive, give a detailed classification of commodities eastbound through the Canal, showing by geographical districts the origin and destination of the same.

Ratio of Cargo Tonnage to Net Tonnage of Vessels Transiting the Panama Canal During the Fiscal Year 1922.

The average ratio of cargo tonnage to net tonnage for all cargo-carrying vessels transiting the Canal during the fiscal year 1922 was 0.95 of a cargo ton of 2,240 pounds to each net ton, Panama Canal measurement. Excluding the vessels transiting the Canal in ballast, the average ratio for all laden vessels was 1.06 cargo tons for each net ton.

Segregating the Atlantic-to-Pacific traffic, the ratio of cargo tonnage to net tonnage was 0.86 for all vessels, and for laden vessels only the ratio was 0.98; while from the Pacific to the Atlantic the ratio of cargo tonnage to net tonnage for all vessels was 1.07, and for laden vessels only, 1.16 cargo tons per net ton, Panama Canal measurement.

The following table shows the ratio of cargo tonnage to net tonnage for vessels of all nationalities, giving the ratio both for all cargo-carrying vessels and for laden vessels only:

RATIO OF CARGO TONNAGE TO NET TONNAGE OF ALL VESSELS TRANSITING THE PANAMA CANAL DURING THE FISCAL YEAR 1922.

	Panama Canal net tonnage.		Total cargo tonnage carried.	Ratio of cargo tonnage to net tonnage.	
	Of vessels in ballast.	Laden vessels only.		Including vessels in ballast.	Laden vessels only.
British	456,775	3,305,437	3,329,861	0.877	1.007
Chilean	.....	150,398	46,182	.307	.307
Costa Rican	18	.....	.....	.....	.....
Danish	24,910	202,563	272,779	1.199	1.346
Dutch	17,779	275,649	290,573	.990	1.054
French	9,238	180,933	139,463	.733	.771
German	.....	122,893	121,888	.992	.992
Greek	11,189	7,429	11,956	.642	1.609
Italian	.....	73,393	38,851	.529	.529
Japanese	138,847	733,619	1,044,515	1,197	1.424
Mexican	1,880	78	10	.128	.128
Norwegian	90,106	294,901	408,268	1.060	1.384
Panaman	207	307	526	.751	1.713
Peruvian	.....	161,930	64,370	.397	.397
Spanish	13,901	13,363	23,701	.869	1.774
Swedish	9,630	114,816	141,448	1.137	1.232
United States	348,323	4,617,984	4,950,519	.996	1.072
Totals	1,122,803	10,255,693	10,884,910	.953	1.061

Length, Beam, and Draft of Vessels through the Panama Canal in the Fiscal Year 1922.

The following tables show, by months, the length, beam, and draft of all commercial vessels transiting the Canal during the past year. From these tables it will be seen that the average ship passing from the Atlantic to the Pacific was 378.5 feet long, with a 50.5-foot beam, and a draft of 21.3 feet, while the average ship passing from the Pacific to the Atlantic was 372.8 feet long, with a beam of 50.1 feet, and a draft of 21.7 feet.

The longest cargo-carrying vessels transiting the Canal during the past fiscal year were the American steamers *Marore* and *Bethore*, each with a length of 550 feet. The vessel with the greatest draft was the *Bethore*, with a draft of 32.5 feet. Cargo-carrying vessels with the greatest beam through the Canal were the United States Shipping Board *State* ships, all of which had beams varying from 72 to 72.2 feet.

The largest vessel through the Canal during the past fiscal year, however, was the United States battleship *Nevada*, with a length of 608 feet and a beam of 97 feet. United States naval vessels and other Government ships transiting the Canal free of tolls are not included in the tables shown below.

AGGREGATE AND AVERAGE LENGTH OF COMMERCIAL VESSELS THROUGH THE PANAMA CANAL—FISCAL YEAR 1922.

ATLANTIC TO PACIFIC.

	Length in feet.						Number of ships.	Total length.	Average length.
	Under 100	100 to 200	200 to 300	300 to 400	400 to 500	500 and over.			
1921.								*Feet.*	*Feet.*
July	3	8	14	31	46	3	105	37,466.0	356.8
August	4	3	14	41	55	3	120	44,352.0	369.6
September	3	2	14	60	47	2	128	48,127.6	376.0
October	1	5	12	41	69	3	131	50,278.4	383.8
November	1	5	13	39	59	6	123	47,284.2	384.4
December	2	3	12	47	69	2	135	51,589.3	382.1
1922.									
January	2	4	14	49	52	4	125	46,838.3	374.7
February	3	3	13	36	59	.....	114	43,040.0	377.6
March	1	2	19	43	71	2	138	52,238.9	378.5
April	3	.....	15	39	62	2	121	46,250.2	382.2
May	2	2	15	42	69	4	134	51,524.7	384.6
June	3	.....	16	44	67	5	135	52,237.9	386.9
Totals	28	37	171	512	725	36	1,509	571,227.5	378.5

PACIFIC TO ATLANTIC.

	Length in feet.						Number of ships.	Total length.	Average length.
	Under 100	100 to 200	200 to 300	300 to 400	400 to 500	500 and over.			
1921.								*Feet.*	*Feet.*
July	2	2	16	37	41	3	101	37,614.7	372.4
August	3	3	14	36	58	2	116	43,407.0	374.2
September	2	2	11	24	52	2	93	35,172.5	378.2
October	2	4	11	47	56	4	124	46,845.4	377.8
November	2	2	12	37	43	3	99	36,924.8	372.9
December	1	3	13	38	45	4	104	39,366.0	378.5
1922.									
January	2	6	8	32	37	.....	85	31,096.2	365.8
February	2	2	12	35	44	3	98	36,844.7	376.0
March	1	1	18	31	43	2	96	35,728.3	372.2
April	2	1	17	39	48	2	109	40,374.3	370.4
May	3	1	16	41	44	4	109	39,890.5	365.8
June	3	.....	14	30	45	1	93	34,148.2	367.2
Totals	25	27	162	427	556	30	1,227	457,412.6	372.8

AGGREGATE AND AVERAGE BEAM OF COMMERCIAL VESSELS THROUGH THE PANAMA CANAL, FISCAL YEAR 1922.

ATLANTIC TO PACIFIC.

	Beam in feet.					Number of ships.	Aggregate beam.	Average beam.
	Under 30	30 to 40	40 to 50	50 to 60	Over 60			
1921.							*Feet.*	*Feet.*
July	11	10	20	57	7	105	5,046.6	48.1
August	7	9	23	74	7	120	5,921.8	49.3
September	5	13	22	77	11	128	6,420.7	50.1
October	4	11	19	89	8	131	6,678.2	50.9
November	4	12	15	78	14	123	6,291.4	51.1
December	5	9	24	88	9	135	6,848.2	50.7
1922.								
January	5	12	34	63	11	125	6,254.2	50.0
February	5	10	21	71	7	114	5,743.7	50.4
March	1	15	25	88	9	138	7,014.4	50.8
April	3	11	21	75	11	121	6,168.0	51.0
May	3	7	25	87	12	134	6,902.0	51.5
June	3	12	23	86	11	135	6,893.5	51.1
Totals	56	131	272	933	117	1,509	76,181.7	50.5

PACIFIC TO ATLANTIC.

1921.							*Feet.*	*Feet.*
July	5	14	21	50	11	101	5,002.7	49.5
August	5	9	25	70	7	116	5,838.7	50.3
September	4	11	11	62	5	93	4,684.9	50.4
October	3	7	25	81	8	124	6,270.3	50.5
November	4	10	18	64	3	99	4,938.4	49.9
December	4	9	20	62	9	104	5,247.6	50.4
1922.								
January	6	8	15	54	2	85	4,186.4	49.3
February	3	10	19	56	10	98	4,959.3	50.6
March	2	11	25	54	4	96	4,808.8	50.1
April	2	12	22	64	9	109	5,517.2	50.6
May	4	11	28	57	9	109	5,397.5	49.5
June	4	12	18	53	6	93	4,620.9	49.7
Totals	46	124	247	727	83	1,227	61,472.7	50.1

AGGREGATE AND AVERAGE SALT WATER DRAFT OF COMMERCIAL VESSELS THROUGH THE PANAMA CANAL, FISCAL YEAR 1922.

ATLANTIC TO PACIFIC.

	Draft in feet.					Number of ships.	Aggregate draft.	Average draft.
	Under 15	15 to 20	20 to 25	25 to 30	30 and over.			
1921.							*Feet.*	*Feet.*
July	20	32	33	20	.....	105	2,073.0	19.7
August	23	37	32	28	.....	120	2,377.7	19.8

ATLANTIC TO PACIFIC—continued.

	Draft in feet.					Number of ships.	Aggregate draft.	Average draft.
	Under 15	15 to 20	20 to 25	25 to 30	30 and over.			
1921.							*Feet.*	*Feet.*
September	20	50	37	21	.....	128	2,489.9	19.4
October	20	43	38	29	1	131	2,624.8	20.0
November	16	37	42	27	1	123	2,546.1	20.7
December	16	30	44	44	1	135	2,904.6	21.5
1922.								
January	14	25	46	38	2	125	2,726.5	21.8
February	14	20	39	40	1	114	2,518.4	22.1
March	15	24	45	53	1	138	3,061.2	22.2
April	12	20	43	45	1	121	2,711.3	22.4
May	9	20	53	46	6	134	3,114.5	23.2
June	10	26	47	51	1	135	3,027.8	22.4
Totals	189	364	499	442	15	1,509	32,175.8	21.3

PACIFIC TO ATLANTIC.

1921.							*Feet.*	*Feet.*
July	14	21	33	31	2	101	2,164.1	21.4
August	10	18	45	42	1	116	2,586.4	22.3
September	9	11	33	39	1	93	2,106.7	22.6
October	9	16	55	42	2	124	2,801.2	22.6
November	10	14	44	31	.....	99	2,196.4	22.2
December	10	20	47	27	.....	104	2,223.5	21.4
1922.								
January	10	22	39	14	.....	85	1,741.2	20.5
February	13	21	44	19	1	98	2,082.6	21.3
March	8	22	48	18	.....	96	2,049.1	21.4
April	10	21	51	27	.....	109	2,353.9	21.6
May	13	25	37	33	1	109	2,327.2	21.4
June	10	18	36	28	1	93	2,012.7	21.6
Totals	126	229	512	351	9	1,227	26,645.0	21.7

Summary of Commercial Traffic through the Panama Canal During the Fiscal Year 1922 and since its Opening to Commercial Traffic.

For the first half of the fiscal year 1922 the traffic through the Canal from the Pacific to the Atlantic in point of number of ships and tonnage was practically on a par with the traffic from the Atlantic to the Pacific, and in cargo tonnage was greater; but for the last half of the fiscal year, both in cargo tonnage and registered tonnage, the Atlantic-to-Pacific traffic was greater by approximately a third.

This preponderance of traffic from the Atlantic to the Pacific is due chiefly to the fact that many ships passing through the Canal laden with cargo for Australasia and the Orient find it more advantageous to return by some other route. During the past fiscal year the tonnage returning from the Orient by way of the Panama Canal was approximately only a fifth of the tonnage bound for the Orient by this route.

However, it is only within the past 2 years that the volume of the Atlantic-to-Pacific traffic has exceeded that from the Pacific to the Atlantic, and only within the past 6 months that the difference has been so striking. In the earlier years of Canal traffic the Pacific-to-Atlantic tonnage was the greater, and by taking the aggregate tonnage passing through the Canal since its opening it will be seen that the total tonnage passing through the Canal from the Pacific to the Atlantic slightly exceeds that in the other direction.

The considerable reduction in the Pacific-to-Atlantic traffic during the past fiscal year was due to a marked decline in tonnage from South America, Australasia, and the Far East. Tonnage from these areas was approximately only 60 per cent of that for the preceding year. Tonnage from the west coast of United States, Canada, Central America, and Mexico, on the other hand, showed a considerable increase.

Table VI, on page 35 shows the number of vessels transiting the Canal since its opening to commerce, segregated between Atlantic to Pacific and Pacific to Atlantic, and shows their registered gross and net tonnage, together with the amount of cargo carried.

Commercial Traffic Through the Panama Canal since its Opening, Classified by Nationality of Vessels.

For the fiscal year ending June 30, 1922, American vessels transiting the Canal exceeded those of any other nationality, numbering 1,095 out of a total of 2,736

vessels, or approximately 2 out of 5. Vessels of United States registry furnished 43½ per cent of the total tonnage and carried approximately 45 per cent of all cargo transported through the Canal.

Vessels of British registry were a close second, numbering 935, or approximately 1 out of 3. British vessels furnished practically one-third of all tonnage through the Canal during the past fiscal year, and carried approximately 30 per cent of the total cargo routed through the Canal.

Vessels of Japanese registry ranked third in point of numbers with 189 vessels, and comprised approximately 8 per cent of the total tonnage, and carried approximately 10 per cent of the total cargo through the Canal during the past fiscal year. Japanese tonnage routed through the Canal during 1922 showed a 40 per cent increase over the preceding fiscal year.

Vessels of Norwegian registry were fourth in point of numbers, tonnage, and tons of cargo carried. For 1922, vessels of Norwegian registry comprised 3.3 per cent of the total tonnage as compared with 4.8 per cent for the fiscal year 1921.

In the following table is presented a summary of all commercial traffic through the Canal since its opening, showing by fiscal years, (*a*) the number of ships, (*b*) Panama Canal net tonnage, (*c*) tolls, and (*d*) tons of cargo, segregated by nationality of the vessels:

TABLE VII.—STATEMENT SHOWING THE NUMBER OF VESSELS, THE PANAMA CANAL NET TONNAGE, TOLLS ASSESSED, AND TONS OF CARGO CARRIED BY VESSELS OF THE PRINCIPAL NATIONS PASSING THROUGH THE PANAMA CANAL DURING THE FIRST 8 YEARS OF ITS OPERATION. (See graph on page 41.)

Nationality.	Year.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
United States	1915	459	1,700,145	$2,002,845.77	2,187,904
	1916	213	652,989	724,219.01	848,857
	1917	404	1,239,492	1,238,322.63	1,475,725
	1918	567	1,704,040	1,713,827.23	2,098,277
	1919	784	2,257,342	2,327,261.48	2,758,886
	1920	1,129	3,791,088	3,805,924.77	4,547,140
	1921	1,210	4,861,761	4,784,577.35	5,163,025
	1922	1,095	4,971,509	4,867,495.81	4,950,519
Totals	.....	5,861	21,178,366	21,464,474.05	24,030,333
British	1915	465	1,630,833	1,847,341.10	2,200,514
	1916	358	1,161,097	1,140,395.07	1,570,660
	1917	780	2,663,250	2,595,158.60	3,393,750
	1918	702	2,529,203	2,498,596.49	2,615,675
	1919	607	1,915,744	1,954,715.87	1,876,939
	1920	753	2,760,188	2,805,018.50	2,830,268
	1921	972	3,978,329	3,989,281.58	3,738,257
	1922	935	3,795,526	3,728,007.80	3,329,861
Totals	.....	5,572	20,434,170	20,558,515.01	21,555,924
Norwegian	1915	42	130,776	141,066.91	166,522
	1916	44	172,459	149,357.56	229,368
	1917	145	490,534	448,948.53	597,581
	1918	296	876,024	823,748.57	1,090,823
	1919	128	497,555	460,057.68	577,679
	1920	106	397,632	371,408.79	404,323
	1921	140	548,227	523,311.94	637,887
	1922	113	385,007	374,870.62	408,268
Totals	.....	1,014	3,498,214	3,292,770.60	4,112,451
Japanese	1915	6	24,897	30,260.40	42,600
	1916	24	81,818	88,229.68	117,780
	1917	72	291,500	305,702.63	446,358
	1918	54	238,814	248,063.30	407,399
	1919	87	341,064	364,622.57	503,427
	1920	118	515,243	543,936.93	726,338
	1921	136	613,245	655,176.51	758,617
	1922	189	872,466	953,949.00	1,044,515
Totals	.....	686	2,979,047	3,189,941.02	4,047,034
Chilean	1915	35	94,638	101,275.95	50,879
	1916	33	91,243	80,192.25	53,573
	1917	99	265,210	236,588.20	184,446
	1918	96	254,841	223,146.30	153,259
	1919	93	253,561	212,511.90	161,340
	1920	79	212,000	169,472.55	104,738
	1921	63	159,727	147,023.75	61,737
	1922	53	150,398	115,757.90	46,182
Totals	.....	551	1,481,618	1,285,968.80	816,154

Nationality.	Year.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Danish	1915	24	92,537	$110,680.30	116,603
	1916	18	68,011	66,938.80	94,950
	1917	43	163,882	141,461.44	242,567
	1918	100	272,946	249,761.14	420,063
	1919	79	213,534	207,404.47	325,277
	1920	9	32,221	43,528.35	42,533
	1921	60	236,512	241,411.86	322,059
	1922	53	227,473	222,146.65	272,779
Totals	.....	386	1,307,116	1,283,333.01	1,836,831
Dutch	1915	7	21,075	24,103.58	26,402
	1916	15	39,642	43,910.44	61,959
	1917	74	260,500	270,321.78	314,203
	1918	48	197,627	214,211.46	233,063
	1919	19	88,299	97,467.75	119,297
	1920	29	152,535	126,868.98	128,442
	1921	50	248,801	229,248.94	216,488
	1922	66	293,428	260,138.38	290,573
Totals	.....	308	1,301,907	1,266,271.31	1,390,427
Peruvian	1915	4	9,403	10,034.30	8,202
	1916	30	74,429	67,691.30	62,210
	1917	86	218,593	199,860.25	159,609
	1918	83	208,958	177,732.30	143,344
	1919	64	166,956	133,243.12	121,524
	1920	75	191,689	161,964.75	119,418
	1921	60	157,495	107,160.64	105,322
	1922	60	161,930	103,035.30	64,370
Totals	.....	462	1,189,453	960,721.96	783,999
French	1915	3	10,703	12,843.60	13,600
	1916	1	4,343	4,782.50	7,176
	1917	9	38,889	39,446.42	36,680
	1918	52	147,805	152,028.03	159,859
	1919	104	253,774	283,971.06	286,812
	1920	60	114,664	127,818.17	125,249
	1921	44	155,889	164,575.94	132,836
	1922	51	190,171	216,475.40	139,463
Totals	.....	324	916,238	1,001,941.12	901,675
Swedish	1915	17	50,824	58,174.76	53,292
	1916	13	41,537	35,892.70	47,236
	1917	18	69,202	56,793.78	94,515
	1918	26	80,191	74,621.25	132,521
	1919	27	95,684	88,572.73	143,516
	1920	19	76,825	62,268.74	74,244
	1921	25	113,661	93,331.25	128,919
	1922	35	124,446	105,939.90	141,448
Totals	.....	180	652,370	575,595.11	815,691
Spanish	1915	.....	.....	.....	.....
	1916	.....	.....	.....	.....
	1917	20	49,124	47,731.15	71,080
	1918	11	24,469	24,038.78	35,394
	1919	5	11,066	11,092.29	10,047
	1920	41	106,056	98,228.02	101,563
	1921	44	117,400	118,548.41	143,076
	1922	9	27,264	32,712.88	23,701
Totals	.....	130	335,379	332,345.53	384,861
Italian	1915	2	4,158	3,992.40	900
	1916	1	3,861	2,779.92	.....
	1917	2	6,430	6,029.80	5,700
	1918	4	13,218	16,875.70	11,450
	1919	.....	.....	.....	.....
	1920	26	98,692	98,959.79	63,441
	1921	25	102,783	103,206.60	47,988
	1922	20	73,393	75,511.30	38,851
Totals	.....	80	302,535	307,355.51	168,330
Miscellaneous	1915	11	22,583	24,931.12	21,036
	1916	8	4,733	3,700.39	345
	1917	51	41,951	41,097.84	36,349
	1918	30	25,937	22,208.60	30,904
	1919	27	30,411	31,907.67	31,877
	1920	34	97,211	98,534.81	106,802
	1921	63	122,046	120,035.14	143,003
	1922	57	144,448	141,791.47	134,380
Totals	.....	281	489,320	484,207.04	504,696

Nationality.	Year.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Totals	1915	1,075	3,792,572	$4,367,550.19	4,888,454
	1916	758	2,396,162	2,408,089.62	3,094,114
	1917	1,803	5,798,557	5,627,463.05	7,058,563
	1918	2,069	6,574,073	6,438,853.15	7,532,031
	1919	2,024	6,124,990	6,172,828.59	6,916,621
	1920	2,478	8,546,044	8,513,933.15	9,374,499
	1921	2,892	11,415,876	11,276,889.91	11,599,214
	1922	2,736	11,417,459	11,197,832.41	10,884,910
Grand totals	.....	15,835	56,065,733	56,003,440.07	61,348,406

Prices of Coal at Los Angeles and San Diego.

The Spreckles Brothers Commercial Company advises that, effective August 11 and subject to change without notice, prices of Utah or Australian coal at Los Angeles and San Diego, respectively, are $11.75 and $12.75 per ton, f. o. b. vessel alongside wharf, trimming extra. Small orders can be filled from reserve stock but on large orders it is necessary to have 2 or 3 weeks' notice.

Strawberries and Mixed Cargo on the "Deerfield."

Six hundred and thirty-three tons of strawberries were shipped in cold storage aboard the steamship *Deerfield*, which made the transit of the Canal on August 13. They were loaded at Seattle and consigned to New York, 363 tons; Philadelphia, 214 tons; and Baltimore, 56 tons.

In addition the *Deerfield* carried large shipments of fresh eggs, fresh butter, egg powder, milk fat, frozen egg yolks, mild cured salmon, 4 tons of pheasants, 10 tons of bristles, 20 tons of carpets, 30 tons of slab camphor, 500 tons of copper, and 2,000,000 feet of lumber.

Seven Thousand Tons of Pineapples.

The steamship *Pacific*, operated by the Isthmian Steamship Lines, passed through the Canal on August 12 with a cargo of pineapples, 284,922 cases, approximately 7,000 tons, and a small consignment of tuna fish and some empty wire reels. The entire cargo was loaded at Honolulu, and is to be discharged at Boston, New York, Philadelphia, and Baltimore.

Large Shipment of Lumber from Japan to Europe.

Practically all of the lumber shipments through the Panama Canal have been from the west coast of the United States and Canada. In the fiscal year ending June 30, 1922, such shipments aggregated 692,974 tons, as compared with 3,912 tons moving from Atlantic to Pacific, and 53 tons from the Far East.

A novel shipment in the Canal trade is that of 3,704,353 feet, board measure, or approximately 6,572 tons, of oak and ash lumber, shipped at Otaru, Japan, for Dunkirk and Antwerp. It was carried through the Canal on August 1 on the steamer *Haveisan Maru*.

Notice to Mariners.—Light at Puerto Cortez, Honduras.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 21, 1922.

The master of the U. S. S. *Galveston* reports:

"The Cuyamel Fruit Company at Pt. Cortez maintains a white light on top of South Radio tower, considerably higher and more powerful than are the lights on Cabello Pt. This light is visible around the horizon and is dependable."

JAY J. MORROW,
Governor.

Table I.—A Comparison of Commercial Traffic through the Panama Canal by Trade Routes for the Fiscal Years, 1921 and 1922.

(See graph on page 39.)

Trade route.	Fiscal year.	Number of ships.			Panama Canal net tonnage.			Tons of cargo carried.		
		Atlantic to Pacific.	Pacific to Atlantic	Total.	Atlantic to Pacific.	Pacific to Atlantic.	Total.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Between United States coastwise ports	1921	177	145	322	783,420	647,557	1,430,977	698,429	673,959	1,372,388
	1922	306	249	555	1,524,190	1,258,464	2,782,654	1,288,075	1,274,452	2,562,527
Between east coast of United States and Far East	1921	187	74	261	915,720	351,904	1,267,624	1,213,906	428,044	1,641,950
	1922	237	47	284	1,200,570	238,136	1,438,706	1,728,172	303,315	2,031,487
Between west coast of United States and Europe	1921	80	158	238	383,028	782,117	1,165,145	144,591	1,154,840	1,299,431
	1922	132	173	305	606,213	823,204	1,429,417	186,696	1,302,183	1,488,879
Between west coast of South America and Europe	1921	136	178	314	533,323	743,148	1,276,471	297,166	922,499	1,219,665
	1922	124	131	255	503,733	552,972	1,056,705	283,804	663,127	946,931
Between east coast of United States and west coast of South America	1921	253	239	492	837,254	778,868	1,616,122	933,261	975,597	1,908,858
	1922	139	144	283	462,123	480,486	942,609	244,514	548,609	793,123
Between Australasia and Europe	1921	72	100	172	489,763	701,530	1,101,293	391,848	579,745	971,593
	1922	84	70	154	565,780	425,477	991,257	359,895	381,538	741,433
Between west coast of Canada and Europe	1921	14	22	36	64,320	103,234	167,554	20,416	154,513	174,929
	1922	41	56	97	222,210	299,327	521,537	149,553	420,272	569,825
Between east coast of United States and Australasia	1921	90	27	117	476,854	156,283	633,137	620,428	147,877	768,305
	1922	53	13	66	270,137	55,343	325,480	288,090	45,957	334,047
Between east coast of Mexico and west coast of South America	1921	77	79	156	383,466	400,455	783,921	654,659	230	654,889
	1922	30	25	55	146,200	123,706	269,906	256,562	.....	256,562
Between west coast of Canada and east coast of United States	1921	13	9	22	59,598	45,187	104,785	82,827	47,729	130,556
	1922	19	30	49	91,667	146,111	237,778	88,408	159,921	248,329
Between Cristobal, C. Z., and west coast of South America	1921	151	155	306	228,108	237,486	465,594	85,190	139,547	224,737
	1922	122	124	246	180,876	185,413	366,289	32,370	85,531	117,901
Between east coast of United States and Balboa, C. Z.	1921	12	9	21	59,743	51,448	111,191	90,525	.....	90,525
	1922	12	4	16	54,678	28,446	83,124	57,142	.....	57,142
Between east coast of Mexico and west coast of United States	1921	27	40	67	143,046	204,977	348,023	261,205	8,155	269,360
	1922	6	12	18	26,048	64,337	90,385	39,500	3,233	42,533
Between Cristobal, C. Z., and west coast of United States	1921	24	23	47	43,578	41,976	85,554	32,048	14,578	46,626
	1922	17	18	35	33,575	41,948	75,523	28,300	16,304	44,704
Between Cristobal, C. Z., and west coast of Central America	1921	32	39	71	21,013	25,733	46,746	15,227	17,378	32,605
	1922	28	30	58	23,173	25,254	48,427	15,961	21,230	37,191
Miscellaneous trade routes	1921	112	122	234	318,668	403,071	721,739	350,352	442,445	792,797
	1922	154	92	246	492,999	264,663	757,662	449,092	163,204	612,296
Warships, etc	1921	14	2	16	(1)	(2)	(3)	.....	.....	.....
	1922	5	9	14	(4)	(5)	(6)	.....	.....	.....
Totals	1921	1,471	1,421	2,892	5,740,902	5,674,974	11,415,876	5,892,078	5,707,136	11,599,214
	1922	1,509	1,227	2,736	6,404,172	5,013,287	11,417,459	5,495,934	5,388,976	10,884,910

[1] Displacement tonnage, 87,473. [2] Displacement tonnage, 36,888. [3] Displacement tonnage, 124,361. [4] Displacement tonnage, 37,267. [5] Displacement tonnage, 60,914. [6] Displacement tonnage, 98,181.

Table II.—Origin and Destination of all Commercial Cargo Passing Through the Panama Canal from the Atlantic to the Pacific. Fiscal Year 1922.

(Figures represent tons of 2,240 pounds.)

(See graph on page 38.)

	Totals.	From—								To—								
		West Indies.	South America, east coast.	Canada, east coast.	Mexico, east coast.	Cristobal C. Z.	Other European.	British Isles.	East coast of United States.	South America, west coast.	United States, west coast.	Far East.	Australasia.	Canada, west coast.	Central America, west coast.	Balboa, C. Z.	Hawaii.	Miscellaneous.
1921.																		
July	258,440	.....	669	396	26,624	6,415	24,339	21,271	178,726	37,743	92,115	70,789	39,409	2,563	8,315	950	5,663	893
August	317,970	7,000	2,105	.....	26,718	6,634	13,699	24,013	237,801	56,422	59,812	116,429	47,416	7,759	1,128	28,114	890	.....
September	300,720	2,013	4,950	3,280	17,889	7,274	14,340	29,820	221,154	31,906	86,516	115,561	42,866	5,704	3,729	12,038	2,400	.....
October	374,437	.....	5,313	3,398	45,809	6,610	21,320	49,100	242,887	40,964	119,102	132,638	56,467	16,347	8,443	.....	476	.....
November	386,681	.....	498	.....	29,300	7,450	18,974	74,678	255,781	37,161	133,760	123,439	70,059	2,030	2,989	9,000	8,243	.....
December	517,110	11,743	9,439	4,343	40,300	7,158	43,647	63,926	336,554	62,582	125,285	210,010	66,854	7,433	5,021	25,672	11,028	3,225
Half year	2,155,358	20,756	22,974	11,417	186,640	41,541	136,319	262,808	1,472,903	266,778	616,590	768,866	323,071	41,836	29,625	75,774	28,700	4,118
1922.																		
January	493,591	37,515	3,675	1,783	54,675	8,072	25,209	73,381	289,281	74,514	136,275	150,439	74,229	28,166	5,929	10,540	13,499	.....
February	442,825	12,790	7,014	3,415	41,737	6,063	14,346	54,731	302,729	77,958	130,128	154,156	63,709	7,376	2,798	6,700	.....	.....
March	581,952	30,726	354	750	31,582	7,389	36,311	66,262	408,578	65,004	176,064	219,013	65,285	34,608	2,967	8,270	6,099	4,642
April	562,433	36,139	7,521	2,463	29,100	6,434	37,933	63,510	379,333	98,496	184,819	183,072	58,400	10,044	2,520	10,535	14,547	.....
May	673,398	11,600	7,006	2,846	48,946	8,097	43,731	44,842	506,330	114,145	226,671	268,832	44,724	10,426	6,484	333	120	1,663
June	586,377	7,538	5,891	2,500	42,488	7,076	31,339	77,258	412,287	117,484	202,362	145,951	69,034	15,849	1,652	15,963	8,100	9,982
Half year	3,340,576	136,308	31,461	13,757	248,528	43,131	188,869	379,984	2,298,538	547,601	1,056,319	1,121,463	375,381	106,469	22,350	52,341	42,365	16,287
Fiscal year	5,495,934	157,064	54,435	25,174	435,168	84,672	325,188	642,792	3,771,441	814,379	1,672,909	1,890,329	698,452	148,305	51,975	128,115	71,065	20,405
Per cent of total cargo:																		
1922	100.0	2.9	1.0	0.5	7.9	1.5	5.9	11.7	68.6	14.8	30.5	34.4	12.7	2.7	0.9	2.3	1.3	0.4
1921	.....	1.6	0.5	0.7	18.2	2.3	4.5	9.3	63.0	32.9	20.0	22.3	18.4	2.1	0.8	3.3	.....	0.2

Table III.—Origin and Destination of all Commercial Cargo Passing Through the Panama Canal from the Pacific to the Atlantic. Fiscal Year 1922.

(Figures represent tons of 2,240 pounds.)

(See graph on page 38.)

	Totals.	From—								To—								
		Miscellaneous.	Hawaiian Islands.	West coast of Central America.	West coast of Canada.	Australasia.	Far East.	West coast of United States.	West coast of South America.	West coast of United States.	British Isles.	Other European.	Cristobal C. Z.	East coast of Canada.	West Indies.	East coast of South America.	Africa.	Miscellaneous.
1921.																		
July	450,542	.....	33,305	4,922	8,559	63,747	39,860	222,647	77,502	164,736	165,229	102,416	11,167	3,246	3,540	208	.....	.....
August	521,303	302	29,700	4,785	4,978	56,462	29,308	293,564	102,204	206,254	205,364	87,038	13,407	1,705	3,969	724	.....	2,842
September	454,174	.....	14,766	1,120	6,217	26,020	11,516	319,197	75,338	145,522	169,234	121,829	11,989	.....	4,896	704	.....	.....
October	611,338	.....	9,629	1,944	14,658	36,605	55,373	372,518	120,611	180,811	202,843	193,093	14,711	123	5,073	30	9,500	5,154
November	468,759	.....	2,930	412	11,009	5,775	29,574	293,815	125,244	179,807	87,828	186,903	8,512	.....	5,221	488	.....	.....
December	435,943	.....	5,981	2,600	4,669	37,528	30,478	206,259	148,428	170,110	118,153	128,243	11,780	682	4,435	14	.....	2,526
Half year	2,942,059	302	96,311	15,783	50,090	226,137	196,109	1,708,000	649,327	1,047,240	948,651	819,522	71,566	5,756	27,134	2,168	9,500	10,522
1922.																		
January	313,707	.....	8,055	4,197	11,268	29,079	14,915	155,218	90,975	155,948	95,763	53,426	5,611	.....	2,285	674	.....	.....
February	395,249	11,072	7,496	7,839	40,490	39,881	8,258	169,602	110,701	172,536	157,005	53,459	9,609	2	2,193	445	.....	.....
March	378,137	4,856	311	15,418	30,822	47,598	14,057	187,009	78,066	194,446	112,716	57,067	11,749	580	963	.....	.....	616
April	483,614	.....	228	12,207	11,127	62,754	33,874	211,663	151,761	253,384	155,719	62,453	18,399	116	5,030	2,293	4,581	1,639
May	485,109	20,944	.....	17,590	16,077	24,134	35,955	233,967	136,442	245,877	136,466	84,924	13,380	67	3,178	417	.....	800
June	391,101	29,541	.....	7,553	21,197	9,940	19,936	202,360	100,574	226,284	90,266	56,349	14,571	.....	2,704	927	.....	.....
Half year	2,446,917	66,413	16,090	64,804	130,891	213,386	126,995	1,159,819	668,519	1,248,475	727,935	367,678	73,319	765	16,353	4,756	4,581	3,055
Fiscal year	5,388,976	66,715	112,401	80,587	180,981	439,523	323,104	2,867,819	1,317,846	2,295,715	1,676,586	1,187,200	144,885	6,521	43,487	6,924	14,081	13,577
Per cent of total cargo:																		
1922	100.0	1.2	2.1	1.5	3.3	8.2	6.0	53.2	24.5	42.7	31.1	22.1	2.7	0.1	0.8	0.1	0.2	0.3
1921	100.0	0.1	1.1	0.9	2.2	12.7	8.9	34.1	40.0	39.4	30.9	19.6	3.4	0.3	2.7	1.4	1.3	1.0

Table IV.—Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of the Same, Fiscal Year Ending June 30, 1922.

ATLANTIC TO PACIFIC.

(Figures represent tons of 2,240 pounds.)

	Totals.	TONS OF CARGO FROM—								TONS OF CARGO TO—							
		West Indies.	South America, east coast.	Canada, east coast.	Mexico, east coast.	Cristobal C. Z.	Other European.	British Isles.	East coast, United States.	South America, west coast.	United States, west coast.	Far East.	Australasia.	Canada, west coast.	Central America, west coast.	Balboa, C. Z.	Miscellaneous.
Agricultural implements	6,706					1	82	175	6,448	1,932	1,735	677	2,276	20	12		54
Aerated waters	428						136	19	273	33	266						129
Aeroplanes	103								103		103						
Alcohol	623								623		570	53					
Alum	40							40			40						
Ammonia	72,213						90		72,123		870	66,403	4,048				892
Ammunition	270								270		270						
Asbestos	25							10	15		15		10				
Asphalt	10,964	5,000		1			150	20	5,793	880	36	9,692	356				
Automobiles	9,956			379		24	405	1,424	7,724	230	1,038	1,315	7,237	9	23		104
Auto accessories	2,559			881		5			1,673	116	1,037	240	1,166				
Balsam	7								7			7					
Bark, ground	15								15			15					
Beans	188						15		173		66	37	70	15			
Bitumen	70								70				70				
Blood and tankage	2,790		2,790								2,698	92					
Bones and bone meal	831		581					150	100		831						
Borax	210							60	150		50	100	60				
Bricks, fire	3,218						270	2,694	254	926	2,292						
Canned goods:																	
Fish	7,268			2		27	824	275	6,140	172	6,124	849	110	2	1		10
Fruit	907					2	219	275	411	191	411	50	245	10			
Meat	2,518		13			28	117	640	1,720	191	1,642	44	630		1		10
Milk	1,395					5	7		1,383	720	23	652					
Vegetables	9,337					22	285	198	8,832	415	8,657	91	50	84	27		13
Others	4,157							13	4,144	10	4,039	100		8			
Calcium chloride	1,855			1,630			59		166	97	128		1,630				
Canary seed	392		392								392						
Carbon black	347								347			332	15				
Caustic soda	300							150	150		170	130					
Cement	48,301					380	28,263	6,419	13,239	38,121	2,617	1,486	764	78	3,295	1,940	
Chalk	1,006						1,006			7	999						
Chemicals	15,509			1		115	2,234	3,002	10,157	3,524	6,831	3,849	866	10	148		281
Chocolate	977					233	4	100	640	6	780	4					187
Clay, fire	1,572						65	1,507			1,572						
Coal and coke	404,389					324	11,194	236,749	156,122	153,639	83,939	4,365	94,718	7,157	417	30,896	29,258
Cocoa	2,783		161	684		767	16	576	579	1	1,862	31	856	33			

Coconuts	10					10				10							
Coffee	19,873	230	13,688		150	4,292	467	19	1,027	18	19,576		2	277			
Cosmetics	24								24		15	9					
Cod storage:																	
Beef	6								6	6							
Butter	301						81		220	11	270		20				
Lard	3,106		2			406		4	2,694	765	2,337		4				
Tallow	54					13			41	54							
Casein	49								49		49						
Other	391			16			90		285		329		62				
Copper sulphate	10							10			10						
Cork	423						13		410	13	410						
Corn	1,203						36		1,167	36	1,167						
Cotton	198,684		1,600			198	344	204	196,338	708	1,849	196,079			48		
Cotton seed	1,667					17	48		1,602	63		1,602			2		
Creosote	10,517						10,475	20	22	7	10,510						
Crockery	30								30		30						
Charcoal	100								100		100						
Drugs	428							129	299	20	279		129				
Dyes	410								410		9	301	100				
Dyewoods	82						40		42	40	20	22					
Earthenware	1,549					2	30	1,496	21	149	21		1,350	29			
Epsom salts	40						40				40						
Explosives	2,862					43		402	2,417	45	2,400	17	400				
Extract, quebracho	1,509		1,509								398	1,111					
Flour	2,337					934	60	1,020	323	1,120	157		1,045		15		
Fruits, dried	953						73	695	185	6	401		20	526			
Fertilizer	14,361		9,607				1,200	3,094	460		10,307		3,594		460		
Fuller's earth	5,228							329	4,899		5,228						
General	1,500,006	21	16,535	14,802	8,010	66,066	112,667	225,675	1,056,230	206,849	591,369	337,849	298,864	22,989	23,353	91	18,642
Glass	26,973						22,592	215	4,166	197	22,891	782	166	2,910	10		17
Glucose	4,833								4,833	50	4,737	4	42				
Glycerin	592								592		150	442					
Graphite	13								13		13						
Guano	100								100		100						
Hats	164					5	132	4	23	138	13	10	2		1		
Hay	1						1			1							
Hemp	667							30	637		624	13	5	25			
Indigo	186					3			183	3		183					
Ink	58								58		58						
Infusorial earth	81							31	50		31	50					
Ivory meal	36								36		36						
Jute	715					337	32	28	318	502	188				25		
Lampblack	8								8		8						
Leather	31							8	23		23			8			
Lime, acetate	508								508	47	70	391					
Linoleum	3,252							70	3,182		3,182			70			
Liquors	14,980		67	8		738	1,784	11,913	470	2,339	471	181	4,076	7,352	491		70
Live stock	81					1	10		70	81							
Lumber	3,911					4	62		3,845	1,047	1,796	610	440				18

Table IV.—Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of the Same, Fiscal Year Ending June 30, 1922.—Contd.

ATLANTIC TO PACIFIC.—Continued.

(Figures represent tons of 2,240 pounds.)

	Totals.	TONS OF CARGO FROM—								TONS OF CARGO TO—							
		West Indies.	South America, east coast.	Canada, east coast.	Mexico, east coast.	Cristobal C. Z.	Other European.	British Isles.	East coast, United States.	South America, west coast.	United States, west coast.	Far East.	Australasia.	Canada, west coast.	Central America, west coast.	Balboa, C. Z.	Miscellaneous.
Manufactured goods:																	
Iron and steel	1,068,361			1,496		2,986	24,411	46,616	992,822	52,507	439,740	498,228	46,720	14,342	2,745	339	13,740
Machinery	88,731					470	4,952	9,519	73,790	13,961	17,067	44,062	12,025	209	550	7	850
Railroad material	139,428					330	23,773	15,518	99,807	23,288	28,560	74,652	12,123		382		423
Textiles	33,976		46			1,104	1,757	9,725	21,344	10,307	12,329	2,426	6,373	341	461		1,739
Others	72,915		13	59		1,093	2,965	8,545	60,240	8,654	46,882	11,912	4,482	131	834		20
Marble	311						255		56	225	86						
Matches	129						56		73		123				6		
Metals:																	
Aluminum	15								15			15					
Copper	21,658					1		204	21,453	63	225	21,212	156				2
Iron	69,424			670			28,279	10,728	29,747	1,755	43,967	14,502	4,047	4,970			183
Lead	393					9	28	180	176	37		176	179	1			
Tin	76,175					37	9	9,805	66,324	1,739	42,660	14,035	575	8,346	37		8,783
Zinc	1,846						65		1,781	15	384	1,447					
Others	4,593						106	1,431	3,056	86	824	1,932	1,718	33			
Milk, powdered	250								250	100	150						
Musical instruments	686						38		648	38	505		134				9
Malt	401								401	401							
Nuts	1,135		1,005					66	64		1,135						
Nitrate	1,163						1,101		62	1	1,100	62					
Oils:																	
Coconut	10							2	8		8		2				
Cottonseed	1,597								1,597	414	1,183						
Crude	486,398	15,943			412,809	141	5	205	57,295	238,331	31,721	62,903	5,523	30,000	14,092	93,828	10,000
Linseed	13,784						3,073	8,645	2,066	98	13,449	50	127	60			
Olive	967						607	44	316	149	784			34			
Pine	371								371		371						
Refined	448,312				11,199	92	308	1,563	435,150	13,508	9,930	326,437	97,433	4		1,000	
Vegetable	3,438					10	831	1,337	1,260	1,049	1,398	543	448				
Lubricating	27,507					53	40	150	27,264	4,064	8,514	11,236	3,693				
Naphtha	3,000				3,000						3,000						
Other	3,445					11	602	84	2,748	412	1,264	1,123	646				
Ore:																	
Copper	2,264						18		2,246	18	3	2,150		93			
Cyanide	500								500		500						
Iron	13,813					2	2,241	410	11,160	732	5,301	7,370	410				
Lead	20								20	20							
Manganese	772						237	535		232	535			5			
Tin	9,836								9,836		9,536	300					
Zinc	198						148		50		48	150					
Other	1,121		2				33		1,096	8	578	545					

Paints	3,282			53		41	159	1,775	1,254	352	882	174	1,809	43	22			
Paper	37,138			4,338		622	10,465	544	21,169	4,903	23,310	2,136	5,783	252	225	14	515
Patent fuel	403							403		403							
Peanuts	869								869		869						
Perfumery	16						16			16							
Phosphates	28,262					3	1,121		27,138	3	1,312	26,947					
Pitch	99								99	99							
Plaster	457			154				178	125				457				
Porcelain	15						15			15							
Potash, sulphate of	2,084						1,551	210	323		1,874		210				
Pulp	1,770						906		864		956	814					
Rags	6,483						6,483				6,283			200			
Rice	6,132					1,366	500	45	4,221	5,875		242		15			
Rosin	16,304					25			16,279	836	4,536	8,903	2,009		20		
Rubber, manufactured	1,231					2	18	159	1,052	45	863	142	181				
Salt	14,110		4,511			777	358	7,746	718	5,288	1,050		7,646	100	26		
Seeds	257		105			4		25	123	127	125			5			
Shells	5,059								5,059		5,059						
Silk	647		2				174	370	101	272	223	102		50			
Silver sand	10,950						10,950				10,950						
Skins and hides	2,016		1,806				50	19	141	564	1,292	95	65				
Slate	336							190	146	14	110	36	176				
Soap	2,925					252	2	1,000	1,671	368	1,624		900		33		
Soda	11,520					8	117	2,203	9,192	603	8,320	1,686	896	15			
Spices	122						43	79		49	73						
Starch	1,481							8	1,473		609	822	42	8			
Sugar	155,409	135,512						1,000	18,897	70	11,820	95,060		44,259	4,200		
Sulphur	100,449					11			100,438		41,573		50,365	3,000	11		5,500
Syrup	1,703					34			1,669	34	1,649		20				
Tapioca	38								38		38						
Tar	98							23	75		98						
Tea	813					3	4	640	166	147	601			63	2		
Tobacco	28,227	328				2	75	474	27,348	328	6,285	17,599	3,901	114			
Talc	10						10				10						
Tartar	143						143				143						
Toys	160						146		14		160						
Turpentine	1,554						4		1,550	11	163	153	1,227				
Varnish	3								3			3					
Vegetables	30	30									30						
Wax	15,088					109	83	365	14,531	5,852	1,170	7,607	438				21
Wheat	64					64				64							
Woods, hard	1,261						37	111	1,113	167	1,009	70	15				
Wool	229					8	72	21	128	126	103						
Zinc oxide	102								102		102						
Totals	5,495,934	157,064	54,435	25,174	435,168	84,672	325,188	642,792	3,771,441	314,379	1,672,909	1,890,329	698,452	148,305	51,975	128,115	91,470

Table V.—Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of the Same, Fiscal Year Ending June 30, 1922.

PACIFIC TO ATLANTIC.

(Figures represent tons of 2,240 pounds.)

	Totals.	Tons of cargo from—								Tons of cargo to—						
		Miscellaneous.	Hawaiian Islands.	West coast, Central America.	West coast of Canada.	Australasia.	Far East.	West coast, United States.	West coast, South America.	East coast, United States.	British Isles.	Other European.	Cristobal, C. Z.	East coast of Canada.	West Indies.	Miscellaneous.
Agricultural implements	510				26			264	220	264	246					
Albumen	154						154			154						
Alfalfa meal	36							36							36	
Algorrobilla	703								703		370	333				
Ammonia	234					234				234						
Arsenic	166						120	46		166						
Asphalt	442						12	430		402	40					
Alcohol	123			7				116		116			7			
Automobiles	240						20	140	80	193	21	26				
Auto accessories	18							2	16	18						
Asbestos	200					200				200						
Balsam	79			55				4	20	16		26	37			
Balsa wood	354								354	354						
Bark:																
Cascara	302				10	14		366	2	288	75	27	2			
Cinchona	7								7	5		2				
Peruvian	711					5			706	26	142	477	66			
Quillay	1,517								1,517	10	250	1,253	4			
Condurango	2								2				2			
Other	10					10				3	7					
Barley	418,234					21		372,504	45,709	1,095	262,641	154,478	20			
Beans	81,231			34		2,791	14,695	42,880	20,831	35,865	6,653	27,203	114		11,396	
Beeswax	961							850	111	912	49					
Borax	37,400				1,200			14,444	21,756	12,603	13,859	10,938				
Bran	8,565								8,565		3,613	4,932	20			
Bricks	30				30									30		
Bri tles	533						84	449		528	5					
Bamboo	14							14		14						
Cacao	45,571			150		44		1,531	43,846	18,844	535	7,559	18,288			345
Camphor	336						318	18		336						
Canned goods:																
Fish	135,335	1,708			19,786		10,902	102,937	2	70,682	42,027	22,317	2		182	125
Fruit	184,320		19,877		5,701	451	88	157,987	216	101,379	63,202	19,298	11		230	200
Meats	2,708			7		925	46	1,725	5	1,456	1,242	3	5			2
Milk	5,601				181	281		5,139		3,890	1,386	325				
Vegetables	11,598						5	11,499	4	10,717	334	246	5		206	
Other	5,129							5,129		4,842	62	223	2			
Cascara	149							149		140	9					
Cassia	2,444						2,444			2,444						
Calite	9,903							9,953		9,616	323		14		10	
Cement	103							103		35	14		54			

Cereals	660								660	660						
Charcoal	172						9	163		172						
Chemicals	313						84	222	7	310			3			
Coca leaves	40								40		1	6	33			
Coffee	94,978	2,406		56,008			102	2,514	33,948	18,961	1,187	20,922	53,655		253	
Copra	52,468	4,762				26,268	8,256	13,170	12	17,274	12,910	22,284				
Cold storage:																
Beef	24,793				445	23,886		7	455	780	24,006	7				
Butter	18,064					18,004		59	1	140	17,921		1	2		
Casein	80							80		80						
Cheese	25,529					25,450		40	39	40	25,460	29				
Glaxo	508					508					508					
Lard	1,901				75		5	1,901		311	162	1,503	5			
Mutton	89,836				50	89,519		50	217	337	89,499					
Pork	92					71		21			71	21				
Rabbits	800					800					800					
Tallow	17,581				275	13,132		3,554	620	2,083	13,342	1,993	10	153		
Eggs	3,435						3,090	345		2,876	559					
Other	10,697	160			330	9,114	13	967	113	932	9,373	392				
Corn	1,068					166			902		166	902				
Cotton, raw	61,011			183			1,458	16,284	43,086	15,395	29,220	3,582	12,814			
Cotton seed	34,544							6,349	28,195		25,263	8,598	683			
Cottonseed oil cake	29,045							9,879	19,166		12,910	15,838	297			
Cottonseed meal	5,634							5,634			5,634					
Coal	736					136			600	136		600				
Coconuts	96					55			41		55		41			
Drugs	25							25		25						
Dyewoods	2,639			2,639						1,116		391	1,132			
Dyes	13							13		13						
Earthenware	38						30	8		30					8	
Eggs, dried	663						327	336		663						
Explosives	822						10	812		22						800
Extracts	3							3		3						
Fire clay	30							30		30						
Flour	139,217	3,024			7,294	1,850	32	116,653	1,364	10,772	74,629	43,795	306		245	470
Fertilizer	495							495		495						
Fireworks	279						277	2		156				123		
Flax	482					477		4	1	54	428					
Fruits, dried	51,225				96	200	14	50,572	343	17,134	10,602	23,482	4			3
Fruits, fresh	24,812				456	705		22,543	1,108	5,650	17,456	1,651	27		5	23
Glassware	200						200			200						
General	389,852	1,225	7,488	5,182	13,745	18,887	62,055	232,805	39,465	272,400	45,722	47,683	8,643	100	3,059	3,245
Glycerin	210							210		160		50				
Gum, kauri	2,846					2,736	110			1,953	624			269		
Graphite	225						40	185		40		185				
Gum, copal	100						100			100						
Guano	7,800					5,450	2,350				7,800					
Hair	53						29	23	1	52		1				
Hardwood	6,643			3,706		1,192	763	877	105	4,517	940	740	446			
Hats	728					2	496		230	523	11	13	179	2		
Hay	6,176					101		5,945	130	5,897	101	6	129		43	

Table V.—Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of the Same, Fiscal Year Ending June 30, 1922.—Contd.

PACIFIC TO ATLANTIC.—Continued.

(Figures represent tons of 2,240 pounds.)

	Totals.	Tons of cargo from—								Tons of cargo to—						
		Miscellaneous.	Hawaiian Islands.	West coast, Central America.	West coast of Canada.	Australasia.	Far East.	West coast, United States.	West coast, South America.	East coast, United States.	British Isles.	Other European.	Cristobal, C. Z.	East coast of Canada.	West Indies.	Miscellaneous.
Hemp	12,647	3,462			781	2,651	5,311	121	321	10,443	1,999	195	10			
Honey	2,227			3		158		646	1,420	609	482	1,133	3			
Hops	4,414							414	4,000	231	23	4,155				
Horns and hoofs	650			11		81		92	466	91	85	465	9			
Indigo	97			97							2		95			
Infusorial earth	1,037							1,037		990		29				18
Ink	59							59		59						
Iodine	320			1			9	3	307	142	11	165	2			
Ivory nuts	26,910					5	1	100	26,804	12,964	392	6,113	7,441			
Jute	87			1				69	17		15	2	70			
Leather	89						10	42	37	52		15	22			
Licorice roots	6,123						6,123			6,123						
Lime	56		7					49		7			49			
Liquors	767			2	58	100	66	257	284	253	163	16	182		153	
Live stock	3,380							3,380		2,000					1,380	
Lumber	720,622	20,791		4,310	47,055	676	53	645,919	1,818	637,529	43,285	12,442	438	4,917	2,730	19,281
Linoleum	1,742						358	1,384		1,742						
Malt	100								100			100				
Matches	10							10		10						
Manufactured goods:																
Iron and steel	4,939				1,178	10	84	3,581	86	2,455	2,263	109	112			
Machinery	3,775		2	879	14	45	31	2,478	326	2,635	361		708	4		67
Railroad material	248							37	211	248						
Textiles	1,010					100	100	184	626	382	626		2			
Other	3,898					941	799	2,142	16	3,435	216	190	53			4
Metals:																
Antimony	529						529			529						
Copper	144,078	1,600		1	8,704	100		41,450	92,223	86,136	1,177	26,345	30,420			
Iron	1,100							1,100		1,100						
Lead	16,179				4,337	5,948		5,149	745	3,241	10,287	2,592	59			
Tin	13,955					1,355	2,072		10,528	6,947	5,644	1,364				
Zinc	1,905				1,450			441	14	217	1,463	224	1			
Other	1,788				20		56	595	1,117	171	710	676	231			
Tungsten	48							48		48						
Milk, dried	845					624		221		221	624					
Musical instruments	2							2		2						
Nitrate	470,796								470,796	214,297	54,568	190,431			2,000	9,500
Nuts	221							221				221				
Oats	24,946				1,855	2,343		454	20,294	50	19,816	4,459	10		611	
Oils:																
Benzine	2,400					2,400				2,400						
Coconut	27,340	11,710				1,052	14,053	525		26,626	39	675				
Crude	94,974					5	1,779	32	93,158	69,293	10,568	15,087	26			
Eucalyptus	19					19				15	4					
Lubricating	58,094							58,094		32,644	25,430	20				

Refined	92,517						2,050	74,360	16,107	23,194	67,938	1,346	19			
Rapeseed	357						357			357						
Vegetable	7,897						7,398	422	77	6,778	52	1,047	20			
Wood	5,209						5,209			5,203		6				
Cottonseed	833								833		764	25	44			
Naphtha	4,820					4,820				4,820						
Other	1,934					331	1,058	434	111	1,473	461					
Onions	4,701							4,158	543	4,197			10		494	
Onyx	76			31				45		45			31			
Orchilla	61								61	20			41			
Ores:																
Antimony	1,076						1,076			1,076						
Copper	86,025				980			4,327	80,718	84,923	350	705	47			
Chrome	1,000					1,000				1,000						
Gold and silver	4,561			8					4,553	3,370	704	84	403			
Iron	31,631							25	31,606	31,631						
Lead	919				336				583	15		904				
Magnesite	536							536		536						
Manganese	200						10	190		200						
Tin	28,449						15	808	27,626	11,163	12,004	5,282				
Tungsten	125						125			125						
Zinc	710							15	695	15		695				
Other	904			6	20			30	848	483	51	289	81			
Paints	97							97		23						74
Paper	4,158			21	453		62	3,612	10	3,784	3	21				350
Peanuts	197							197		197						
Phosphates	66,337		6,500			51,407	8,430			1,130	14,150	51,057				
Pollards	209								209		209					
Porcelain	552						531	21		549		3				
Pulp paper	14,685	3,600			10,305			780		14,685						
Quicksilver	50							50		50						
Quinine	18								18				18			
Rags	276					5		271		276						
Rice	44,240			10	200		19,641	24,308	81	12,639	245	9,598	1,577		20,106	75
Rubber	11,226			19	5	100	10,633	356	113	11,041	105	8	72			
Rye	1,959							1,752	207		650	1,309				
Salt	44					15		29		29	15					
Saltpeter	409							409				409				
Seeds:																
Clover	2,495					25	130	227	2,113	501	1,633	361				
Grass	128					128					128					
Hemp	1,231						629	159	443	324	261	646				
Linseed	454						454			454						
Mustard	1,019						947		72	977		42				
Sesame	1,011						1,011			100		911				
Other	786			70		185	313	216	2	599	39	78	70			
Shells	684			91		376	190	20	7	592		65	27			
Silk	1,082						1,005	77		873		3	6		200	
Silver sand	94					30		25	39	25	30		39			
Slate, pencil	166							166			150	16				

Table V.—Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of the Same, Fiscal Year Ending June 30, 1922.—Contd.

PACIFIC TO ATLANTIC.—Continued.

(Figures represent tons of 2,240 pounds.)

	Totals.	TONS OF CARGO FROM—								TONS OF CARGO TO—						
		Miscellaneous.	Hawaiian Islands.	West coast, Central America.	West coast of Canada.	Australasia.	Far East.	West coast, United States.	West coast, South America.	East coast, United States.	British Isles.	Other European.	Cristobal, C. Z.	East coast of Canada.	West Indies.	Miscellaneous.
Skins and hides	30,340	340	.....	981	548	8,229	3,512	8,157	8,573	14,908	9,325	3,003	2,689	415	.....	.....
Soap	39	.....	.....	.....	.....	.....	.....	37	2	27	.....	.....	12	.....	.....	.....
Spices	116	.....	.....	.....	.....	30	78	8	.....	78	30	.....	8	.....	.....	.....
Starch	617	.....	.....	.....	.....	.....	617	.....	.....	617	.....	.....	.....	.....	.....	.....
Sugar	257,967	7,172	78,527	6,073	.....	2,940	85,568	200	77,487	171,348	59,176	25,465	1,978	.....	.....	.....
Syrup	14	2	.....	.....	.....	.....	.....	12	.....	14	.....	.....	.....	.....	.....	.....
Talc	925	.....	.....	.....	.....	.....	.....	925	.....	920	5	.....	.....	.....	.....	.....
Tar	70	.....	.....	.....	.....	.....	.....	.....	70	.....	.....	70	.....	.....	.....	.....
Tea	11,470	.....	.....	.....	.....	.....	11,285	125	60	11,424	.....	46	.....	.....	.....	.....
Tobacco	158	.....	.....	1	.....	.....	120	30	7	141	.....	13	4	.....	.....	.....
Vegetables	705	.....	.....	.....	.....	.....	.....	399	306	527	.....	.....	38	.....	140	.....
Walnuts	3,070	.....	.....	.....	.....	.....	55	1,492	1,523	2,920	.....	.....	150	.....	.....	.....
Wax	302	.....	.....	.....	.....	.....	160	120	22	285	15	2	.....	.....	.....	.....
Wheat	804,736	15,947	.....	.....	52,382	25,772	.....	705,922	4,713	50	437,864	366,755	67	.....	.....	.....
Wool	148,103	.....	.....	.....	600	81,832	9,069	40,429	16,173	76,308	65,486	5,373	430	506	.....	.....
Totals	5,388,976	77,909	112,401	80,587	180,981	439,523	311,910	2,867,819	1,317,846	2,295,715	1,676,586	1,137,200	144,885	6,521	43,487	34,582

Table VI.—Summary of Commercial Traffic Through the Panama Canal During the Fiscal Year 1922 and since its Opening to Commercial Traffic.

(See graph on page 40.)

	ATLANTIC TO PACIFIC.				PACIFIC TO ATLANTIC.				TOTAL.			
	Vessels.	Tonnage. Registered gross.	Tonnage. Registered net.	Tons of cargo.	Vessels.	Tonnage. Registered gross.	Tonnage. Registered net.	Tons of cargo.	Vessels.	Tonnage. Registered gross.	Tonnage. Registered net.	Tons of cargo.
1921.												
July	105	508,670	403,051	258,440	101	514,132	407,562	450,542	206	1,022,802	810,613	708,982
August	120	607,852	487,219	317,970	116	611,965	478,057	521,303	236	1,219,817	965,276	839,273
September	128	669,087	530,634	300,720	93	498,133	394,503	454,174	221	1,167,220	925,137	754,894
October	131	708,363	571,175	374,437	124	627,449	498,379	611,338	255	1,335,812	1,069,554	985,775
November	123	671,741	539,017	386,681	99	512,416	403,394	468,759	222	1,184,157	942,411	855,440
December	135	720,502	575,669	517,110	104	563,997	441,575	435,943	239	1,284,499	1,017,244	953,053
Total for first half of fiscal year	742	3,886,215	3,106,765	2,155,358	637	3,328,092	2,623,470	2,942,059	1,379	7,214,307	5,730,235	5,097,417
1922.												
January	125	646,371	513,764	493,591	85	423,469	332,752	313,707	210	1,069,840	846,516	807,298
February	114	605,323	488,005	442,825	98	499,713	398,530	395,249	212	1,105,036	886,535	838,074
March	138	724,316	586,041	581,952	96	502,655	389,770	378,137	234	1,286,971	975,811	960,089
April	121	650,055	520,688	562,433	109	569,283	454,145	483,614	230	1,219,338	974,833	1,046,047
May	134	742,419	594,713	673,398	109	555,134	438,103	485,109	243	1,297,553	1,032,816	1,158,507
June	135	752,082	594,196	586,377	93	475,956	376,517	391,101	228	1,228,038	970,713	977,478
Total for second half of fiscal year	767	4,120,566	3,297,407	3,340,576	590	3,026,210	2,389,817	2,446,917	1,357	7,146,776	5,687,224	5,787,493
Total for fiscal year 1922	1,509	8,006,781	6,404,172	5,495,934	1,227	6,354,302	5,013,287	5,388,976	2,736	14,361,083	11,417,459	10,884,910
Fiscal year ending June 30, 1915	522	2,657,865	1,860,276	2,070,993	553	2,758,922	1,932,296	2,817,461	1,075	5,416,787	3,792,572	4,888,454
Fiscal year ending June 30, 1916	396	1,912,846	1,277,728	1,369,019	362	1,683,683	1,118,434	1,725,095	758	3,596,529	2,396,162	3,094,114
Fiscal year ending June 30, 1917	874	4,170,733	2,819,848	2,929,260	929	4,360,088	2,978,709	4,129,303	1,803	8,530,821	5,798,557	7,058,563
Fiscal year ending June 30, 1918	915	3,938,042	2,736,542	2,639,300	1,154	5,433,297	3,837,531	4,892,731	2,069	9,371,339	6,574,073	7,532,031
Fiscal year ending June 30, 1919	857	3,458,417	2,673,958	2,740,254	1,167	4,418,186	3,451,032	4,176,367	2,024	7,876,603	6,124,990	6,916,621
Fiscal year ending June 30, 1920	1,180	5,391,567	4,168,873	4,092,516	1,298	5,668,252	4,377,171	5,281,983	2,478	11,059,819	8,546,044	9,374,499
Fiscal year ending June 30, 1921	1,471	7,287,556	5,740,902	5,892,078	1,421	7,234,859	5,674,974	5,707,136	2,892	14,522,415	11,415,876	11,599,214
Fiscal year ending June 30, 1922	1,509	8,006,781	6,404,172	5,495,934	1,227	6,354,302	5,013,287	5,388,976	2,736	14,361,083	11,417,459	10,884,910
Totals	7,724	36,823,807	27,682,299	27,229,354	8,111	37,911,589	28,383,434	31,119,052	15,835	74,735,396	56,065,733	61,348,406

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, August 19, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kennecott [1]	12	14.20	13	6.20	13	13.54	13	14.59	American	Alaska Shipping Co	345.3	49.6	18.0	New York	Los Angeles	General	3,178½	4,593	3,381
Stanley Dollar	13	6.45	13	11.52	13	17.34	13	18.05	American	Dollar Line	288.0	44.6	18.6	Baltimore	Los Angeles	General	2,100	3,460	2,404
Mineola	13	4.46	13	12.25	13	18.23	13	18.55	American	Grace Line	298.6	40.0	16.6	New York	Talara	General	1,458	2,835	1,805
Moonlite [2]	13	2.50	13	15.50	14	12.14	17	11.09	American	Pacific Steamship Co	252.0	43.7	24.0	Newport News	Los Angeles	General	1,558	2,121	1,669
Alaska	12	21.13	14	6.14	14	14.39	14	15.38	French	French Line	425.0	55.0	19.2	Antwerp	Seattle	General	500	6,990	4,854
Steel Worker	13	15.20	14	7.15	14	15.44	14	17.01	American	U. S. Steel Products Co	424.2	56.2	27.5	New York	Seattle	General	8,800	7,611	5,497
Jacob Luckenbach	14	8.30	14	9.00	14	17.29	14	18.36	American	Luckenbach Line	414.5	53.7	27.0	Mobile	Seattle	General	5,000	7,315	5,270
Stathis	14	19.37	15	6.25	15	13.45	15	15.09	British	Glover Brothers	400.0	52.0	25.0	Cardiff	San Francisco	Coal	5,932	6,053	4,542
Ravnanger	15	7.00	15	7.30	15	14.45	15	16.02	Norwegian	H. Westfal Larsen Co	335.6	48.2	29.0	Halifax	Portland	Railroad steel	3,400	3,664	2,471
President Taft	15	8.00	15	8.40	15	15.50	15	16.47	American	Pacific Mail S. S. Co. (S. B.)	517.0	72.2	25.3	New York	San Francisco	Ballast		15,234	10,405
Torrey	15	8.25	15	10.25	15	17.00	17	16.29	Norwegian	Martin Mosvold	400.0	52.6	16.0	New Orleans	Shanghai	General	3,025	6,698	4,990
Sumatra Maru	15	9.15	15	10.55	15	18.19	16	12.45	Japanese	Osaka Shosen Kaisha	385.0	51.0	25.10	New Orleans	Kobe	Kerosene, gen	5,755	5,809	4,416
Poleric	14	15.45	15	11.25	15	19.07	15	20.38	British	Andrew Weir & Co	461.0	53.0	27.10	New York	Manila	General	7,000	8,249	5,929
Sherman	15	10.20	15	11.58	15	19.52	15	21.22	American	Sherman Steamship Co	400.3	45.3	18.6	New York	Antofagasta	General	1,478	5,037	3,492
Julia Luckenbach	15	12.15	15	13.00	15	21.47	15	22.11	American	Luckenbach Line	436.0	57.0	24.6	Boston	Seattle	General	5,734	8,543	6,402
Huasco	12	14.10	16	6.05	16	13.45	16	14.55	Chilean	Chilean Line	380.0	44.0	23.0	Cristobal	Valparaiso	General	440	4,552	3,182
Principio	15	17.05	16	7.40	16	14.34	16	14.40	German	Lechelt & Co	185.0	24.0	10.6	Hamburg	Los Angeles	Ballast		621	406
Benjamin Brewster	15	21.10	16	9.05	16	15.55	16	18.21	American	Standard Oil Co	411.6	53.2	26.3	Tampico	Iquique	Fuel oil	7,000	6,177	4,244
Chatham	16	10.40	16	10.55	16	19.03	17	3.05	British	Watts, Watts & Co	341.3	46.7	23.0	Cardiff	Valparaiso	Coal	4,843	3,986	2,888
Washington Maru	17	7.55	17	8.20	17	16.01	17	16.53	Japanese	Kokusai Kisen Kaisha	385.0	51.0	25.0	Jacksonville	Yokohama	General	5,579	5,919	4,400
Blue Triangle	17	12.55	17	13.10	17	19.21	17	20.28	American	N. Atl. & West. S. S. Co. (S. B.)	390.0	54.2	20.0	Philadelphia	Los Angeles	General	2,292	6,209	4,317
Kinderdijk	17	12.54	18	6.15	18	13.45	18	14.50	Dutch	Holland-American Line	470.0	58.0	22.10	Rotterdam	Seattle	General	3,135	8,515	6,068
Santa Malta	17	6.05	18	7.40	18	14.40	18	15.40	American	Atlantic & Pacific Steamship Co.	404.6	53.9	22.3	New York	Seattle	General	5,000	6,766	4,809
City of Auckland	18	8.35	18	8.50	18	16.27	18	18.22	British	Hall Line, Ltd	418.6	62.2	25.6	New York	Melbourne	General	6,283	9,394	6,723
West Catanace	18	2.25	18	10.50	.....	.....	.....	.....	American	Elder Steel Steamship Co	410.5	54.3	20.0	New York	Seattle	General	2,820	6,567	4,917
Newport	15	16.37	18	12.48	18	19.18	19	12.35	American	Pacific Mail Steamship Co	326.0	38.0	18.1	Cristobal	San Francisco	General	1,675	3,173	2,163
Erroll	18	12.55	18	13.00	18	20.18	18	21.45	British	Trinder Anderson & Co	365.0	47.0	23.0	Auckland	Montreal	General	4,000	4,714	3,401
Rotarian	19	12.35	19	7.05	19	14.35	19	15.39	American	Wessel Duval & Co. (S. B.)	380.0	55.0	18.0	New York	Talcahuano	General	621	5,660	4,174
Yankee Arrow	19	12.50	19	7.35	19	15.57	19	17.02	American	Standard Oil Co	435.3	63.0	27.6	Beaumont	Woosung	Crude oil	11,015	9,841	6,946
Panama Maru	19	3.40	19	8.55	19	16.42	19	17.54	Japanese	Osaka Shosen Kaisha	400.0	51.3	20.2	Buenos Aires	Kobe	Blood (dry), etc.	1,196	6,099	4,289
Leise Maerak	19	7.15	19	9.20	19	17.00	19	18.03	Danish	A. P. Moller	301.0	44.2	12.3	New York	Pisagua	Ballast		3,212	2,166

[1] Motor ship.

[2] Motor schooner.

Canadian Explorer	19	7.20	19	10.40	19	18.10	19	19.26	British	Canadian Government	400.0	52.0	22.0	Montreal	Brisbane	General	5,000	5,841	4,046
Ucayali	14	18.17	19	10.45	19	19.00	19	23.10	Peruvian	Peruvian Line	374.0	46.0	18.3	Cristobal	Callao	General	416	4,466	2,405
Elabeto	19	7.30	19	11.45	19	19.40	19	21.05	American	Los Angeles Ship Building Co	253.4	43.7	19.5	Newport News	Los Angeles	Ballast	....	2,751	1,718
Atlantic Sun	19	9.15	19	12.05	19	20.25	19	23.10	American	Sun Co	429.3	59.2	17 10	Chester	Los Angeles	Ballast	.....	7,898	5,593
THROUGH THE CANAL—PACIFIC TO ATLANTIC.																			
Helder	12	9.25	13	7.10	13	15.00	14	22.45	Dutch	Royal Netherlands W. I. Mail	372.0	60.0	22.0	Talcahuano	Hamburg	General	4,786	5,117	3,807
Norman Monarch	13	2.00	13	8.10	13	15.35	13	15.35	British	Monarch Line	400.6	52.0	25.6	Antofagasta	Wilmington	Nitrate	7,750	5,568	4,146
Jamaica	13	2.00	13	9.23	13	16.00		....	British	Pacific Steam Navigation Co	220.0	34.0	11.6	Champerico	Cristobal	General	252	1,187	622
Deerfield	13	10.45	13	11.22	13	18.15	13	18.15	American	Elder Steel Steamship Co	434.3	57.7	26.0	Seattle	Baltimore	General, lumber	6,550	7,893	5,647
Robin Adair	13	22.45	14	7.42	14	14.48	14	14.48	American	Seas Shipping Co	124.8	55.2	23 9	Anacortes	Boston	General, lumber	6,113	7,470	5,529
Toco	14	0.05	14	8.10	14	16.45	16	21.15	British	Sheridan Steamship Co	440.8	56 0	18.6	Antofagasta	Tampico	Ballast	.....	7,692	4,822
Santa Luisa	14	6.00	14	9.36	14	16.30	14	22.20	American	Grace Line	360.2	61.6	21.10	Talcahuano	New York	General	3,628	5,694	3,975
Ohioan	14	9.00	14	11.00	14	17.30	14	20.30	American	American-Hawaiian Line	107.0	53.7	24.6	San Pedro	New York	General	5,512	7,112	4,896
Ucayali	14	10.00	14	11.57	14	18.17	19	10.45	Peruvian	Peruvian Line	374 7	46 3	16.6	Callao	Cristobal	General	762	4,466	2,405
Willfaro	14	14.10	14	11.34	14	21.37	14	22.05	American	Williams Steamship Co	386.6	52.2	22.0	Marsfield	New York	General, lumber	5,971	5,680	4,162
Newport	15	8.00	15	9.40	15	16.37	18	12.48	American	Pacific Mail Steamship Co	326.0	38.2	23 9	San Francisco	Cristobal	General	400	3,173	2,162
Tuscaloosa City	16	5.00	16	8.08	16	16.10	18	14.00	American	Isthmian Lines	424.2	56.2	25.0	San Francisco	London	General	7,507	7,611	5,450
Clan Macinnes	16	6.00	16	8.50	16	17.00	16	22.50	British	Clan Line, Ltd	385.0	52.0	20.0	Bunbury	London	General	6,000	5,229	3,538
Venezuela	16	5.30	16	13.55	16	20.45	17	14.35	American	Pacific Mail Steamship Co	395.3	48.6	23.6	San Francisco	New York	General	3,008	6,033	4,353
Manavi	16	14.40	17	7.01	17	14.08	21	10.30	British	Pacific Steam Navigation Co	216.0	35.1	14.10	Guayaquil	Cristobal	General	713	1,357	884
Lewis Luckenbach	16	18.30	17	7.58	17	15.40	17	20.30	American	Luckenbach Line	496.0	68.2	27.0	San Francisco	New York	General, lumber	9,518	11,487	8,762
Salvador	17	4.00	17	9.01	17	15.55	..	..	British	Pacific Steam Navigation Co	225 0	35.4	12.10	Tumaco	Cristobal	General	141	1,213	692
Elder Branch	17	7.30	17	9.35	17	17.35	17	22 15	British	E. & W. Ritson	380.0	49.0	22.0	Mejillones	Liverpool	General	6,214	4,951	3,592
West Ira	17	8.15	17	10.55	17	18.35	17	22.35	American	U. S. Shipping Board	410.5	54 2	23.0	Kobe	New York	General	6,500	6,755	4,892
Kenuta	17	11.00	17	11 53	17	19.30	17	20.50	British	Pacific Steam Navigation Co	401.0	52.2	24 0	Corral	Liverpool	General	5,819	6,440	4,899
Canadian Seigneur	18	5.30	18	8.00	18	15.35	18	21.53	British	Canadian Government	406.6	52.0	16.0	Melbourne	Montreal	General	1,440	5,893	4,135
Felix Taussig	18	1.00	18	11.45	18	17.07	18	19.07	American	Crowell & Thurlow	395.0	55.1	25.0	Everett	New York	General, lumber	7,000	6,582	4,503
Orita	18	12.30	18	13.58	18	20.55	19	10.43	British	Pacific Steam Navigation Co	485.4	58.2	28.0	Talcahuano	Liverpool	General	7,000	9,936	6,561
Orcus	18	21.52	19	7.53	19	14.46	19	20.10	American	Wessel Duval Co	380.2	53.1	23.8	Talcahuano	New York	Nitrate	6,848	5,667	4,227
Bermuda	18	23.45	19	9.10	19	16.16	19	22.40	British	H. M. H. Namazee	469.4	56.2	23.0	Hongkong	New York	General, lumber	7,604	.....	.....
Cubore	19	8.30	19	9.31	19	17.51	19	17.51	American	Ore Steamship Corp	450.6	57 2	28.0	Cruz Grande	New York	Iron ore	10,600	7,867	4,829

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
August 13	Colon	Panama Railroad Steamship Line	New York via Haiti.
August 13	Turrialba	United Fruit Co	New Orleans via Habana.
August 13	Ulua	United Fruit Co	Port Limon.
August 14	Albaro	Italian Line	Genoa via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
August 13	Ulua	United Fruit Co	New York via Habana.
August 14	Solana	Pacific Mail Steamship Co	Tampico.
August 14	Turrialba	United Fruit Co	Bocas del Toro.
August 16	Toloa	United Fruit Co	Port Limon.

(Continued on page 44, column 2.)

Graph to accompany Tables II and III on pages 24 and 25.

The origin and destination of all cargo routed through the Panama Canal between the principal geographical areas is shown in the following graphs, a comparison being made between the fiscal years 1921 and 1922:

ATLANTIC TO PACIFIC TRAFFIC.

Origin of cargo:		
East coast of United States..	1921	3,712,029
	1922	3,771,441
British Isles	1921	545,419
	1922	642,792
Continental Europe	1921	262,926
	1922	325,188
West Indies	1921	92,667
	1922	157,064
Miscellaneous	1921	207,255
	1922	164,281
Destination of cargo:		
Far East	1921	1,311,641
	1922	1,890,329
West coast of United States..	1921	1,176,424
	1922	1,672,909
West coast of South America.	1921	1,938,542
	1922	814,379
Australasia	1921	1,081,875
	1922	698,452
Miscellaneous	1921	383,596
	1922	419,865

PACIFIC TO ATLANTIC TRAFFIC.

Origin of cargo:		
West coast of United States..	1921	1,948,848
	1922	2,867,819
West coast of South America.	1921	2,280,593
	1922	1,317,846
Australasia	1921	726,949
	1922	439,523
Far East	1921	596,072
	1922	323,104
Miscellaneous	1921	244,674
	1922	440,294
Destination of cargo:		
East coast of United States..	1921	2,248,843
	1922	2,295,715
British Isles	1921	1,763,431
	1922	1,676,586
Continental Europe	1921	1,116,115
	1922	1,187,200
Miscellaneous	1921	578,747
	1922	229,475

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended August 21:

Steamships *Baja California*, manufacture new piston and 2 piston rings for ice machine; *Rimutaka*, repair 6 fire tools; braze 1 copper steam pipe to ice machine; motor ship *Moonlite*, rebabbitt, machine, and refit main bearings of semi-Diesel main engine; remetal and machine thrust bearing; weld 1 hot-ball and 1 cylinder head; manufacture and install 8 hinged doors on hot-ball heads; handle electrical motors for the Electrical Division; launch *Garachine*, lift launch to dock; renew shoe; repair broken planking; repair circulating and air pumps; straighten bent propeller; paint bottom with copper paint, paint top side, white; dredge *Mexico*, remetal and machine 1 L. P. go-head guide shoe; repair galley stove; steamship *Memnon*, renew suction pipe from hot-well to line feed pumps; acetylene-weld hot-well; remove, electric-weld and replace scuttle butt tank; and renew broken ice box handles; motor ship *Costa Rica*, remetal and machine main and crank pin bearings of semi-Diesel main engine; true up journals; repair relief valves; weld head for main engine air compressor; refit bearings of dynamo engine; renew exhaust pipe and test out engine; repair valves and bearings of deck winches.

PREVIOUSLY REPORTED.

Colombian coast guard cutter *No. 3*, remove machinery; hoist boat on dock for general repairs to hull, machinery, and deck houses; U. S. submarine *O–16*, general running repairs and alterations.

The following vessels were at the Cristobal shops for repairs during the week ended August 21:

Steamships *Jamaica*, manufacture springs for dynamo brushes; renew part of water service pipe in engine room, etc.; *Toco*, remove shaft from anchor windlass; test and straighten same, etc.; calk and pay deck in chain lockers, *Tuscaloosa City*, rebore circulating pump cylinder, manufacture new piston and rod, also 4 new rings, *Balboa*, repair lifeboat and davits, repair gangway platform, fire tools, main engine gland and boat tanks; braze copper pipes, etc.; *Salvador*, repair and adjust refrigerator, evaporator and condenser gauges; repair refrigerator, lifeboat, 2 cargo gins, canvas slings, and guard plate on steam pipe to windlass; repair miscellaneous piping; calk boat deck; manufacture 1 canvas tent for No. 3 hatch, etc.; *Manavi*, furnish and install 1 new 6 x 4 x 6 ballast pump with connections; manufacture and install new liner in cylinder of anchor windlass; machine piston and manufacture new rings to suit; manufacture 2 brass valves for main engine sanitary pump and 2 union pieces for reversing gear as sketches, etc.; *Heredia*, *Magellan*, *Perou*, and *Albaro*, minor repairs.

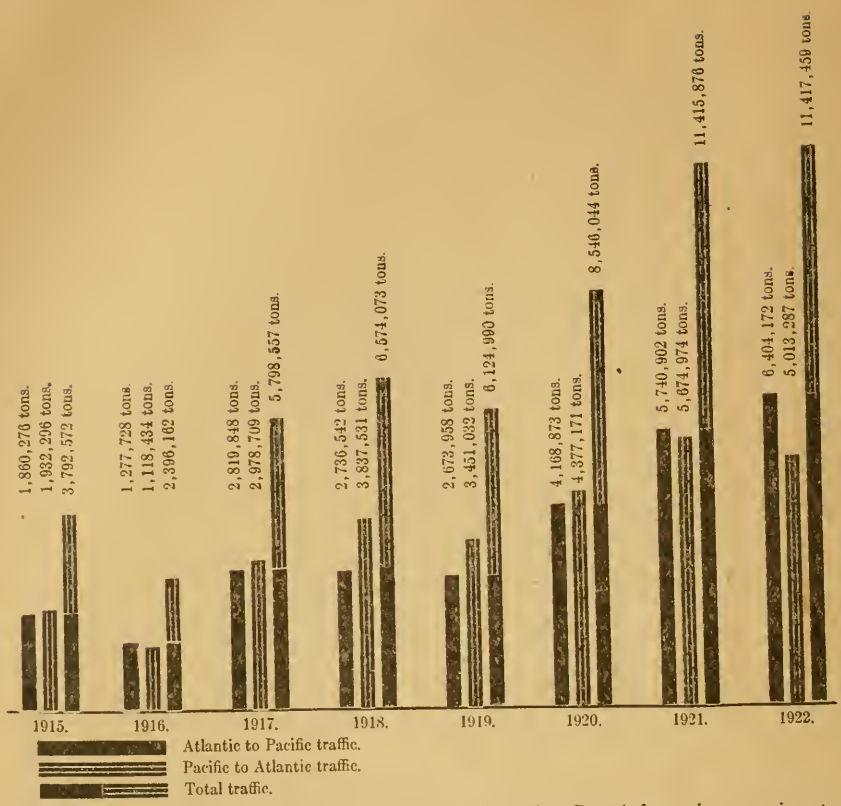
Graph to accompany Table I on page 23.

The combined traffic of cargo in both directions between the principal areas is presented in the following graph:

COMBINED CARGO MOVEMENT IN BOTH DIRECTIONS OVER 11 PRINCIPAL TRADE ROUTES.

U. S. coastwise, Atlantic to Pacific....	1,288,075
U. S. coastwise, Pacific to Atlantic....	1,274,452
Total.....	2,562,527
United States to Far East.....	1,728,172
Far East to United States.....	303,315
Total.....	2,031,487
Europe to west coast of United States.	186,696
West coast of United States to Europe	1,302,183
Total.....	1,488,879
Europe to South America.....	283,804
South America to Europe.....	663,127
Total.....	946,931
United States to South America.....	244,514
South America to United States.....	548,609
Total.....	793,123
Europe to Australasia.....	359,895
Australasia to Europe.....	381,538
Total.....	741,433
Europe to west coast of Canada.....	149,553
West coast of Canada to Europe.....	420,272
Total.....	569,825
United States to Australasia.....	288,090
Australasia to United States.....	45,957
Total.....	334,047
Mexico to South America.....	256,562
South America to Mexico.....	
Total.....	256,562
United States to Canada.....	88,408
Canada to United States.....	159,921
Total.....	248,329
Cristobal to South America.....	32,370
South America to Cristobal.....	85,531
Total.....	117,901

Graph to accompany Table VI on page 35.



The registered tonnage of all vessels transiting the Canal from its opening to June 30, 1922, is shown above, by fiscal years, and segregated by Atlantic to Pacific and Pacific to Atlantic traffic.

Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 18, 1922.

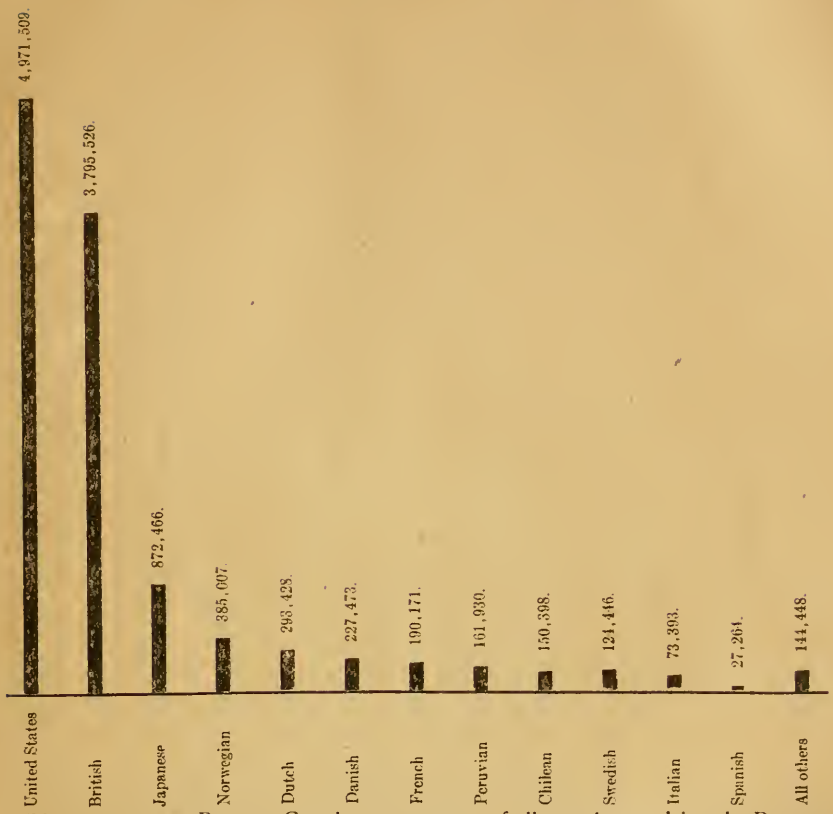
The Hydrographic Office, U. S. Navy, Washington, D. C., reports that on August 13 one of the two derelict barges in Lat. 14° North, Long. 70°–24′ West, was broken in two, and that the other was water-logged.

JAY J. MORROW,
Governor.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending August 19, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Baja California	A. O. Lindvig	August 8	August 14	.....	2,253
Jamaica	Pacific Steam Navigation Co	August 13	August 13	2	.....
Newport	Pacific Mail Steamship Co	August 15	August 15	39	.....
Trophon	Anglo-Saxon Petroleum Co	August 15	August 16	5,030	.....
Venezuela	Pacific Mail Steamship Co	August 16	August 16	65	.....
Manavi	Pacific Steam Navigation Co	August 16	August 16	5	.....
Salvador	Pacific Steam Navigation Co	August 17	August 17	2	.....
Memnon	General Steamship Corp	August 17	August 18	110	.....
Newport	Pacific Mail Steamship Co	August 18	August 19	.....	17

Graph to accompany Table VII on page 20.



The net tonnage, Panama Canal measurement, of all vessels transiting the Panama Canal during the fiscal year 1922, is shown above in graphic form, by nationality of vessels.

Dry Season Conditions in Midst of Rainy Season.

The month of July, 1922, was one of much less than the usual precipitation for July on the Isthmus. At Colon less rainfall was recorded than in any previous July in 52 years of record, and over the Isthmus generally the conditions of wind velocity and direction, humidity, sunshine, and temperatures approached the normal of the dry season.

The inflow into Gatun Lake was not equal to the outflow. On August 4 the surface of the lake was 85.29 feet above sea level, 0.21 foot below the scheduled elevation for this time of the year. This represents a deficit of 945 million cubic feet of water storage. The flow of the Chagres River toward the end of the month was about 50 per cent below the average for July or August.

The occurrence of dry season conditions in the midst of the rainy season is a phenomenon known on the Isthmus as the *verano* (summer or dry season) of San Juan. Previously such occurrences have been sporadic and scarcely observable. The weather of July and so far in August of this year has been the most important instance recorded on the Isthmus.

Origin and Destination of Cargo—Atlantic to Pacific, July, 1922.[1]

From—	South America.						North America.							Far East.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[2]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[2]	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[2]	Total, Far East.	New Zealand.	Australia.	Australasia.	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																									
United States—																									
North Atlantic port	2,761	45	326	3,669	5,993	12,704	127,368	380	4,859	7,551	637	....	140,795	19,798	14,727	1,441	12,577	111,543	318	24,289	3,441	28,048	3,505	296,595	54.7
South Atlantic ports	....	....	1,013	801	....	1,814	10,490	....	....	....	....	....	10,490	1,994	5,233	66	6,400	13,693	....	....	....	....	....	25,997	4.8
Gulf ports	3,166	....	2,009	....	....	5,166	19,137	....	....	....	635	....	19,772	24,022	19,034	....	....	43,056	....	....	....	....	....	67,994	12.5
Total, U. S.	5,927	45	3,339	4,470	5,993	19,684	156,995	380	4,859	7,551	1,272	....	171,057	75,814	38,994	1,507	18,977	168,292	318	24,289	3,441	28,048	3,505	390,586	72.0
East coast of Mexico	28,590	....	....	....	....	28,590	....	....	....	....	....	6,058	6,058	....	7,449	....	....	7,449	....	....	....	....	....	42,097	7.8
Cristobal, C. Z.[3]	1,165	83	86	245	1,255	2,834	2,271	....	....	926	2,501	....	5,698	....	....	....	....	....	....	....	....	....	....	8,532	1.6
West Indies	2	....	....	....	....	2	12	....	6,300	....	....	....	6,312	....	....	....	....	....	....	....	....	....	....	6,314	1.1
E. coast of Canada	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	5,911	2,476	8,388	....	8,388	1.5
Total, N. America	35,684	128	3,425	4,715	7,158	51,110	159,278	380	11,159	8,477	3,773	6,058	189,125	75,814	46,443	4,507	18,977	175,741	319	30,200	5,917	36,436	3,505	455,917	84.0
Europe:																									
Belgium	....	....	....	....	1,056	1,056	1,650	....	63	....	....	....	1,713	....	....	....	....	....	....	....	....	....	....	2,769	0.5
British Isles	8,684	....	120	678	3,693	13,175	29,909	....	1,382	....	....	....	31,291	....	....	....	....	....	9,000	....	6,741	15,741	....	60,207	11.1
France	12	....	....	....	....	12	232	....	15	....	....	....	247	....	....	....	....	....	....	....	....	....	....	259	....
Germany	3,895	....	....	650	4,395	8,940	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8,940	1.7
Holland	725	....	125	305	....	1,155	1,801	....	10	....	....	....	1,811	....	....	....	....	....	....	....	....	....	....	2,966	0.6
Italy	....	....	....	....	1,984	1,984	2	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	1,986	0.4
Sweden	....	....	....	....	....	....	7,753	....	....	....	....	....	7,753	....	....	....	....	....	....	....	....	....	....	7,753	1.4
Europe[2]	615	....	....	575	....	1,190	213	....	....	....	....	....	213	....	....	....	....	....	....	....	....	....	....	1,403	0.3
Total, Europe	13,931	....	245	2,208	11,128	27,512	41,560	....	1,470	....	....	....	43,030	....	....	....	....	....	9,000	....	6,741	15,741	....	86,283	16.0
East coast of S. America	....	....	....	....	....	....	100	....	....	....	....	....	100	112	....	....	....	112	....	....	....	....	....	212	....
Grand totals	49,615	128	3,670	6,923	18,286	78,622	200,938	380	12,629	8,477	3,773	6,058	232,255	75,926	46,443	4,507	48,977	175,853	9,319	30,200	12,658	52,177	3,505	542,412	100.0
Per cent of total cargo:																									
July, 1922	9.1	....	0.7	1.3	3.3	14.4	37.4	....	2.3	1.5	0.7	1.1	43.0	14.0	8.5	0.9	9.0	32.4	1.6	5.7	2.3	9.6	0.6	100.0	....
June, 1922	7.8	0.4	0.2	3.6	8.0	20.0	34.5	0.6	2.7	1.1	0.3	2.7	41.9	10.4	6.6	....	7.9	24.9	3.9	4.8	3.1	11.8	1.4	....	....
July, 1921	7.2	0.3	0.1	1.7	5.3	14.6	35.6	0.3	1.0	....	3.2	0.4	40.5	11.3	3.3	....	12.8	27.4	9.8	2.4	3.1	15.3	2.2	....	....

[1] Figures represent tons of 2,240 pounds.

[2] General cargo not routed so as to allow segregation among various ports.

[3] Includes both local and tranfer cargo.

Origin and Destination of Cargo—Pacific to Atlantic, July, 1922.[1]

From—	North America. United States. North Atlantic ports	South Atlantic ports.	Gulf ports.	Total, United States.	East Coast of Canada.	West Indies.	Cristobal, C. Z.[2]	Total, North America.	Europe. Belgium.	British Isles.	Denmark.	France.	Germany	Holland.	Italy.	Norway and Sweden.	Spain.	Europe.[3]	Total, Europe.	East coast of South America.	Egypt.	Grand totals.	Per cent of total cargo.
South America:																							
Chile	59,174	....	5,416	64,590	....	28	260	64,878	6,409	22,482	....	1,975	4,740	307	5,061	....	2,906	7,776	52,647	....	6,343	123,868	18.5
Peru	18,207	....	....	18,207	....	....	4,478	22,685	3,440	7,796	....	....	312	10,352	6	....	950	....	22,856	....	....	45,541	6.8
Colombia	2,006	....	....	2,006	....	....	269	2,275	....	....	....	....	....	....	....	....	....	....	....	....	....	2,275	0.3
Ecuador	1,804	....	....	1,804	....	....	2,137	3,941	....	363	....	402	87	68	400	....	....	....	1,320	....	....	5,261	0.8
Total, South America	81,191	....	5,416	86,607	....	28	7,144	93,779	9,840	30,641	....	2,377	5,139	10,727	6,467	....	3,856	7,776	76,823	....	6,343	176,945	26.4
North America:																							
West coast of United States	153,397	49	8,149	161,595	....	2,665	222	164,482	4,900	88,614	5,228	....	1,865	18,901	....	....	....	54,594	174,102	1,657	....	340,241	50.9
West coast of Canada	9,845	....	390	10,233	....	....	....	10,233	100	4,100	....	....	....	....	....	....	....	14,766	18,966	....	....	29,199	4.4
West coast of Mexico	682	....	....	682	455	....	54	1,191	....	....	....	....	....	....	....	....	6,513	....	6,513	....	....	7,704	1.1
West coast of Central America	288	....	....	288	....	....	2,102	2,390	....	....	732	....	....	....	....	1,000	....	....	1,732	....	....	4,122	0.6
Total, North America	164,210	49	8,539	172,798	455	2,665	2,378	178,296	5,000	92,714	5,960	....	1,865	18,901	....	1,000	6,513	69,360	201,313	1,657	....	381,266	57.0
Asia:																							
China	8,050	....	13,000	21,050	....	....	....	21,050	....	....	....	....	....	....	....	....	....	....	....	....	....	21,050	3.2
Japan	1,718	....	....	1,718	....	....	....	1,718	....	....	....	....	....	....	....	....	....	....	....	....	....	1,718	0.2
Philippines	34,518	....	....	34,518	....	....	....	34,518	....	....	....	....	....	....	....	....	....	....	....	....	....	34,518	5.2
Far East[3]	560	....	....	560	....	....	....	560	....	....	....	....	....	....	....	....	....	....	....	....	....	560	0.1
Total, Asia	44,846	....	13,000	57,846	....	....	....	57,846	....	....	....	....	....	....	....	....	....	....	....	....	....	57,846	8.7
Australasia:																							
Australia	14,640	....	....	14,640	....	....	....	14,640	....	8,418	....	....	....	....	....	....	....	....	8,418	....	....	23,058	3.4
New Zealand	1,558	....	....	1,558	246	....	....	1,804	....	10,242	....	....	....	....	....	....	....	....	10,242	....	....	12,046	1.8
Australasia[3]	1,100	....	....	1,100	....	....	....	1,100	....	7,377	....	....	2,450	....	....	....	....	6,600	16,427	....	....	17,527	2.6
Total, Australasia	17,298	....	....	17,298	246	....	....	17,544	....	26,037	....	....	2,450	....	....	....	....	6,600	35,087	....	....	52,631	7.9
Grand totals	307,545	49	26,955	334,549	701	2,693	9,522	347,465	14,840	149,392	5,960	2,377	9,454	29,628	6,467	1,000	10,369	83,736	313,223	1,657	6,343	668,688	100.0
Per cent of total cargo:																							
July, 1922	46.0	....	4.0	50.0	0.1	0.4	1.4	51.9	2.2	22.3	0.9	0.3	1.4	4.4	1.0	0.2	1.6	12.5	46.8	0.3	1.0	100.0	....
June, 1922	52.6	4.2	1.0	57.8	....	0.8	3.7	62.3	3.1	23.1	0.2	2.9	3.0	0.5	0.1	....	....	4.6	37.5	0.2	....	....	....
July, 1921	29.0	2.8	4.7	36.5	0.7	0.8	2.5	40.5	....	36.7	1.7	0.7	1.7	3.5	2.2	0.3	0.1	11.4	59.4	0.1	....	....	....

[1] Figures represent tons of 2,240 pounds.

[2] Includes both local and transfer cargo.

[3] General cargo not routed so as to allow segregation among various ports.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for $1.70 per barrel of 42 gallons.

Diesel oil is sold at $3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa. C. Z

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Empty Barrels For Sale.

Address inquiries to Chief Quartermaster The Panama Canal, Balboa Heights. C. Z

Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster Balboa Heights

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 37.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
August 14	Peron	French Line	Havre via wayports.
August 15	Toloa	United Fruit Co	New York via Habana.
August 15	Cartago	United Fruit Co	New Orleans via Port Limon.
August 16	Tivives	United Fruit Co	New York via Kingston.
August 16	Carrillo	United Fruit Co	Colombian ports.
August 17	Turrialba	United Fruit Co	Bocas del Toro.
August 17	Alexandrian	Leyland Line	High seas.

*DEPARTURES.

Date.	Vessel.	Line.	For—
August 17	Cartago	United Fruit Co	New Orleans via wayports.
August 17	Tivives	United Fruit Co	Colombian ports.
August 17	Carrillo	United Fruit Co	New York via Kingston.
August 17	Turrialba	United Fruit Co	New Orleans.
August 17	Alexandrian	Leyland Line	New Orleans.
August 18	Peron	French Line	Havre via wayports.
August 18	Alexandrian	Leyland Line	New Orleans.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
August 15	Trophon	Anglo-Saxon Petroleum Co	Los Angeles.
August 16	Costa Rican	Costa Rican Government	Punta Arenas.
August 17	Memnon	U. S. Shipping Board	San Francisco.

Date.	Vessel.	Line.	For—
August 14	Baja California	A. O. Lindvig	San Francisco.
August 16	Trophon	Anglo-Saxon Petroleum Co	Los Angeles
August 18	Memnon	U. S. Shipping Board	Valparaiso.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., August 30, 1922. No. 3.

CANAL WORK IN JULY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of July, 1922:

BALBOA HEIGHTS, C. Z., August 22, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of July, 1922.

CANAL TRAFFIC.

The traffic through the Canal during the month of July, 1922, greatly exceeded that during the month of June, 1922, and is considerably in excess of the average month's traffic for the past fiscal year. This increase in traffic is entirely accounted for by the increased tonnage passing from the Pacific to the Atlantic—the traffic in this direction showing an increase of approximately 50 per cent over that for the preceding month. All the geographical regions contributing to the Pacific to Atlantic traffic showed an increase for the month of July over that for the preceding month; the tonnage originating in the Far East during July aggregated 62,230 net tons, Panama Canal measurement, as compared with 16,857 net tons for the preceding month; the net tonnage of vessels routed through the Canal from Australasia totaled 59,642 tons, as compared with 9,982 tons for June; and the net tonnage of vessels routed from the west coast of the United States increased from 160,229 tons in June to 209,896 tons in July. This increased Pacific to Atlantic traffic was largely due to shipments of wheat—a total of 137,737 cargo tons being shipped via the Panama Canal in July as compared with 41,285 tons in June, and 99,267 tons in July, 1921. Other commodities which showed increased shipments for July over the preceding month were lumber, iron ore, nitrate, sugar, barley, canned goods, wool, beans, copra and phosphates.

The total number of vessels and craft of all kinds transiting the Canal during the month of July, as compared with the preceding month and with the corresponding month of last year, was as follows:

	July, 1922.	June, 1922.	July, 1921.
Commercial vessels	251	228	206
Noncommercial vessels	14	24	28
Launches, etc. (under 10 tons measurement)	2	4	3
Total vessels and craft through Canal	267	256	237

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in July, as follows:

	North-bound.	South-bound.	Total.
Gatun	19	13	32
Pedro Miguel	25	21	46
Miraflores	22	21	43
Totals	66	55	121

COMMERCIAL TRAFFIC.[1]

Comparative Traffic Statistics.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of July, 1922, with that of the preceding month and the corresponding month of last year along the lines indicated at the head of the various tables:

TONNAGE, TOLLS, AND CARGO CARRIED.

	July, 1922.	June, 1922.	July, 1921.	Average month for past year.
United States equivalent net tonnage	897,770	773,798	652,439	787,245
Panama Canal net tonnage	1,127,871	970,713	810,613	977,893
Registered gross tonnage	1,419,754	1,228,038	1,022,802	1,229,836
Registered net tonnage	900,399	776,410	650,368	783,437
Tolls	$1,094,127.42	$932,290.42	$804,503.11	$957,288.06
Tons of cargo	1,211,100	977,478	708,982	948,919

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	July, 1922.	June, 1922.	July, 1921.
United States equivalent net tonnage	3,577	3,394	3,167
Panama Canal net tonnage	4,493	4,257	3,935
Registered gross tonnage	5,656	5,386	4,965
Registered net tonnage	3,587	3,405	3,157
Tolls	$4,359.07	$4,089.99	$3,905.35
Tons of cargo (including vessels in ballast)	4,825	4,287	3,441
Tons of cargo (laden vessels only)	5,288	4,724	3,961

UNITED STATES COASTWISE TRAFFIC.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
July	19	101,924	$99,474.75	60,997	14	70,477	$72,103.75	91,991
August	19	86,278	81,734.17	55,387	23	110,899	118,316.25	129,792
September	25	134,239	136,340.58	72,620	15	88,111	83,011.64	104,642
October	22	113,712	116,752.05	86,442	19	96,731	101,710.00	105,951
November	24	136,349	131,558.19	91,067	17	86,958	88,339.80	101,460
December	20	104,152	106,549.80	73,967	23	116,482	117,600.08	105,134
1922.								
January	28	138,928	141,404.35	119,413	20	108,921	111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052

UNITED STATES SHIPPING BOARD VESSELS.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
July	12	67,851	$65,796.25	29,918	12	60,804	$61,305.00	82,767
August	15	76,570	71,607.58	46,542	18	79,390	77,353.39	91,897
September	10	53,816	51,785.48	38,368	16	84,433	82,566.25	109,610
October	10	55,300	53,475.00	34,593	14	61,980	62,318.75	79,129
November	12	74,635	71,525.74	44,976	5	29,949	29,127.50	28,865
December	9	47,604	46,318.75	44,101	6	32,957	32,803.75	28,784
1922.								
January	6	34,546	34,756.25	23,575	7	31,550	30,646.95	28,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage:

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
July	221,318	124,108	23,167	23,488	10,970	403,051
August	257,600	175,768	15,527	21,202	17,122	487,219
September	277,984	160,534	10,889	23,038	58,189	530,634
October	262,440	226,431	27,828	20,516	33,960	571,175
November	301,680	192,594	14,997	18,444	11,302	539,017
December	312,225	198,287	21,113	15,601	28,443	575,669
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,223	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
Average month for past year	308,126	160,702	20,923	19,629	27,420	536,800

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
July	194,358	45,391	63,969	58,062	41,271	403,051
August	164,577	106,886	94,486	70,551	50,719	487,219
September	268,758	90,105	80,242	53,309	38,220	530,634
October	280,483	78,532	100,332	69,057	42,771	571,175
November	216,092	107,721	95,216	78,493	41,495	539,017
December	188,815	115,980	136,940	84,391	49,743	575,669
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
Average month for past year	198,095	108,438	110,923	72,662	46,682	536,800

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
July	174,412	99,745	41,084	70,124	22,197	407,562
August	229,629	110,248	20,628	68,661	48,894	478,067
September	218,453	84,212	14,762	30,814	46,262	394,503
October	252,645	124,560	37,720	41,436	42,018	498,379
November	189,942	126,381	23,556	6,581	56,934	403,394
December	195,969	135,952	28,194	39,616	41,844	441,575
1922.						
January	152,992	100,224	16,830	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
Average month for past year	188,880	116,138	27,296	43,260	52,652	428,226

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
July	205,690	134,047	23,123	28,770	15,932	407,562
August	231,830	194,279	27,256	22,022	2,670	478,057
September	204,820	140,555	26,478	17,114	5,536	394,503
October	259,613	170,189	18,222	30,955	19,400	498,379
November	196,974	164,345	20,446	16,760	4,869	403,394
December	191,277	192,575	25,550	21,739	10,434	441,575
1922.						
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
Average month for past year	182,112	191,829	22,352	20,940	10,993	428,226

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of July, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	19.2	.....	.....	6.3
East coast of United States	45.7	.....	16.6	.....
East coast of Mexico	.....	30.5	.....	24.4
Cristobal, C. Z.	.....	17.9	.....	24.0
West coast of United States	9.6	.....	11.1	.....
West coast of South America	7.5	.....	24.4	.....
Australasia	.....	27.8	37.8	.....
Far East	2.3	.....	128.0	.....

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of July, 1922, was published in THE PANAMA CANAL RECORD under date of August 16, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo carried over the principal trade routes during July, 1922, as compared with the preceding month, and with the corresponding month of last year:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	July, 1922.	June, 1922.	July, 1921.	July, 1922.	June, 1922.	July, 1921.
United States coastwise ports	31	34	19	25	25	14
United States and Far East	22	19	13	11	3	6
Europe and United States	11	5	9	19	6	17
United States and South America	14	14	6	13	12	10
Europe and South America	10	14	7	13	8	8
Cristobal and South America	8	9	12	9	11	14
Europe and Australasia	3	7	4	6	1	11
United States and Australasia	5	7	5	5	1	.....
Europe and Canada	3	5	4	7	7	3
Mexico and United States	.....	.....	2	.....	.....	1
Mexico and South America	3	4	2	3	2	1
United States and Canada	3	1	.....	4	4	.....
Miscellaneous	15	16	22	8	13	16
Totals	128	135	105	123	93	101
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	155,758	161,981	101,924	126,894	121,156	70,477
United States and Far East	113,464	95,705	63,969	62,230	16,857	30,048
Europe and United States	61,287	27,857	44,064	83,002	29,803	84,491
United States and South America	43,594	57,326	18,539	52,672	43,027	32,992
Europe and South America	41,296	58,517	29,498	58,963	35,784	33,678
Cristobal and South America	15,831	14,285	17,619	17,191	19,580	23,607

	Atlantic to Pacific.			Pacific to Atlantic.		
	Panama Canal net tonnage.			Panama Canal net tonnage.		
	July, 1922.	June, 1922.	July, 1921.	July, 1922.	June, 1922.	July, 1921.
Europe and Australasia	20,122	44,934	29,486	36,851	6,581	70,124
United States and Australasia	32,317	37,525	23,280	22,791	3,401	.....
Europe and Canada	27,813	26,188	21,060	38,355	37,952	15,970
Mexico and United States	.....	.....	10,078	.....	.....	8,409
Mexico and South America	15,812	17,638	8,611	15,542	10,990	5,105
United States and Canada	14,149	4,225	.....	16,418	23,481	.....
Miscellaneous	32,788	48,005	34,923	22,731	27,305	32,661
Totals	574,231	594,196	403,051	553,640	376,517	407,562
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	150,379	181,651	60,997	153,052	113,692	91,991
United States and Far East	163,433	140,962	70,684	57,846	19,936	29,829
Europe and United States	41,591	8,404	19,232	138,716	49,541	135,326
United States and South America	19,774	36,136	9,222	86,771	59,531	33,125
Europe and South America	27,514	47,963	11,925	76,851	32,594	31,719
Cristobal and South America	2,744	2,827	1,569	7,068	8,344	8,369
Europe and Australasia	15,741	29,357	10,846	36,769	5,440	63,747
United States and Australasia	30,525	37,177	24,068	14,362	4,500	.....
Europe and Canada	4,913	23,809	3,357	56,084	55,579	24,255
Mexico and United States	.....	.....	8,000	.....	.....	.....
Mexico and South America	29,590	32,888	14,069	.....	.....	.....
United States and Canada	20,291	5,500	.....	20,892	31,208	.....
Miscellaneous	35,917	39,703	24,471	20,277	10,736	32,181
Totals	542,412	586,377	258,440	668,688	391,101	450,542

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,094,127.42. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the revenue would have been increased by $218,997.94. The additional tolls would have been contributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$30,128.54	$24,725.70	$54,854.24
Chilean	4,253.65	3,692.45	7,946.10
Dutch	2,418.60	4,132.45	6,551.05
French	.....	439.70	439.70
German	1,761.55	882.90	2,644.45
Italian	980.65	945.45	1,926.10
Japanese	3,571.90	6,009.70	9,581.60
Norwegian	2,317.70	855.70	3,173.40
Peruvian	3,308.45	4,666.65	7,975.10
Spanish	.....	335.65	335.65
Swedish	4,494.15	2,073.70	6,567.85
United States	46,265.90	70,736.80	117,002.70
Totals	99,501.09	119,496.85	218,997.94

The additional tolls which would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$28,332.50	$34,171.80	$62,504.30
United States and Canal Zone ports	556.30	246.60	802.90
United States and United States possessions	2,208.75	5,003.90	7,212.65
United States and foreign ports	15,158.35	21,911.65	37,070.00
Between foreign ports	.....	9,402.85	9,402.85
Totals	46,265.90	70,736.80	117,002.70

Of the $218,997.94 additional revenue that would have been collected by using the Panama Canal rules of measurement exclusively, $10,348.80 represents the additional tolls that would have been collected on account of deck cargo.

RATIO OF CARGE TONNAGE TO NET TONNAGE BY NATIONALITY OF VESSELS.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, for vessels transiting the Canal in July is shown in the following table, segregated by nationality of vessels. A marked improvement will be noted in the ratio of cargo tonnage to net tonnage over July a year ago. In the ratios shown herewith only laden cargo-carrying vessels have been considered:

RATIO OF TONS OF CARGO TO NET TONNAGE, PANAMA CANAL MEASUREMENT.

	Atlantic to Pacific.	Pacific to Atlantic.	Totak
British	1 14	1.09	1.12
Chilean	18	.17	.17
Dutch	.52	1.32	1.01
French	.16	1.65	.83
German	.70	1.74	.91
Italian	.46	1.50	.98
Japanese	1.30	1 60	1.52
Norwegian	1.48	1.75	1.56
Peruvian	.11	.59	.39
Spanish	.....	1.89	1.89
Swedish	1.50	1.65	1.56
United States	1.20	1.25	1.23
Average ratio, July, 1922	1.13	1.25	1.19
Average ratio, June, 1922	1.09	1.14	1.11
Average ratio, July, 1921	.69	1.20	.94

COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of July, 1922, has been compiled from declarations of cargo and manifests submitted by the ships' masters, and while incomplete, it is indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From the cargo declarations and manifests submitted it was possible to classify by commodities 69 per cent of all cargo passing from the Atlantic to the Pacific, and 95 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith—the figures represent tons of 2,240 pounds.

Commodity.	July, 1922.	June, 1922.	July, 1921.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	126,641	134,947	52,574
Machinery	17,095	4,904	6,043
Railroad material	7,444	19,730	8,222
Textiles	3,388	5,812	1,993
Other manufactured goods	6,575	23,136	5,182
Oil:			
Refined	69,457	44,387	15,635
Crude petroleum	35,043	49,362	14,491
Lubricating	8,590	3,451	.....
Coke	13,839	.....	.....
Coal	11,428	37,080	8,258
Sugar	10,300	7,474	.....
Metals:			
Tin	9,550	12,692	1,589
Iron	5,887	12,487	6,094
Cotton, raw	5,760	4,893	26,083
Paper	5,109	2,333	1,574
Tobacco	3,635	1,139	625
Automobiles	3,227	2,682	76
Cement	2,446	1,904	1,871
Glass and glassware	2,356	3,437	1,158
General and miscellaneous	194,642	214,527	106,972
Totals, Atlantic to Pacific	542,412	586,377	258,440
Pacific to Atlantic.			
Wheat	137,737	41,285	99,267
Lumber	107,181	82,727	31,699
Oils:			
Refined	32,442	23,908	1,194
Crude petroleum	23,353	13,541	.....
Lubricating	14,897	11,300	....
Nitrate	47,149	24,043	26,05

Commodity.	July, 1922.	June, 1922.	July, 1921.
Pacific to Atlantic—Continued.			
Ore:			
Iron	39,400	25	.....
Copper	4,188	10,834	5,490
Tin	3,834	3,032	.....
Other	6,836	502	897
Sugar	35,411	15,505	48,394
Barley	28,600	17,909	27,780
Canned goods:			
Fish	16,876	4,303	10,596
Fruit	10,367	9,721	10,482
Metal, copper	18,698	19,505	9,529
Wool	13,497	8,051	14,030
Beans, peas, lentils, etc	11,990	5,407	5,762
Copra	8,185	761	2,450
Phosphates	6,600	.....	7,500
Cotton, raw	6,532	4,936	3,281
Cold storage, beef, butter, etc	6,820	4,314	33,825
Coffee	5,647	7,587	6,675
Borax	5,333	6,060	202
Flour	4,439	6,812	28,940
Skins and hides	3,642	2,178	4,658
Chemicals	3,529	30	1
Oats	2,977	1,000	3,185
Cacao	2,811	3,451	4,072
Cottonseed oil cake	2,789	1,206	717
Ivory nuts	2,704	2,026	2,368
Fruit, dried	2,168	1,248	3,048
Seed, cotton	1,858	1,007	.....
General and miscellaneous	50,198	56,827	58,449
Totals, Pacific to Atlantic	668,688	391,101	450,542

TRAFFIC BY NATIONALITY.

Nationality.	No. of ships.	Tonnage. United States equivalent.	Tonnage. Panama Canal net.	Tonnage. Registered. Gross.	Tonnage. Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific.							
Argentine	1	(1)	(1)	(1)	(1)	$1,240.00	.....
British	48	181,378	223,578	287,814	179,865	220,443.22	206,822
Chilean	3	5,071	8,827	10,165	6,160	6,338.75	1,575
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	3,280
French	1	4,874	5,001	6,687	4,236	6,001.20	800
German	3	9,869	11,732	13,346	8,139	12,326.45	7,911
Italian	1	3,331	4,287	5,850	3,646	4,163.75	1,984
Japanese	6	24,050	28,303	37,185	23,685	28,217.30	30,746
Norwegian	6	16,866	19,522	25,218	15,654	20,287.42	25,851
Panaman	1	52	52	79	72	62.40	.....
Peruvian	2	2,495	5,356	8,049	4,187	3,118.75	384
Swedish	2	6,885	10,917	11,304	8,451	8,606.25	16,388
United States	52	195,773	250,378	310,428	195,391	233,297.62	246,471
Totals, July, 1922	128	454,736	574,231	722,758	453,528	549,218.11	542,412
Totals, June, 1922	135	476,105	594,196	752,082	479,291	571,161.36	586,377
Totals, July, 1921	105	324,330	403,051	508,670	321,763	405,220.18	258,440
From Pacific to Atlantic.							
British	37	133,226	160,538	205,155	132,990	161,023.74	159,924
Chilean	3	4,535	7,801	9,096	5,521	5,668.75	1,321
Dutch	2	6,559	10,176	10,519	6,484	8,198.75	13,432
French	1	3,566	4,081	5,681	3,600	4,457.50	6,735
German	1	2,550	3,392	4,177	2,588	3,187.50	5,904
Italian	1	3,339	4,266	5,860	3,486	4,173.75	6,417
Japanese	14	58,274	64,821	84,592	57,310	71,775.50	103,944
Norwegian	2	6,776	7,642	9,755	5,976	8,314.70	13,386
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	4,582
Spanish	1	3,031	3,437	4,648	2,877	3,788.75	6,513
Swedish	3	4,942	6,876	8,318	6,071	6,177.50	11,376
United States	55	212,537	272,868	336,743	213,691	263,519.12	335,154
Totals, July, 1922	123	443,034	553,640	696,996	446,871	544,909.31	668,688
Totals, June, 1922	93	297,693	376,517	475,956	297,119	361,129.06	391,101
Totals, July, 1921	101	328,109	407,562	514,132	328,605	399,282.93	450,542

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Total traffic.							
Argentine	1	(1)	(1)	(1)	(1)	$1,240.00	.....
British	85	314,604	384,116	492,969	312,855	381,466.96	366,746
Chilean	6	9,606	16,628	19,261	11,681	12,007.50	2,896
Dutch	4	10,651	16,454	17,152	10,526	13,313.75	16,712
French	2	8,440	9,082	12,368	7,836	10,458.70	7,535
German	4	12,419	15,124	17,523	10,727	15,513.95	13,815
Italian	2	6,670	8,553	11,710	7,132	8,337.50	8,401
Japanese	20	82,324	93,124	121,777	80,995	99,992.80	134,690
Norwegian	8	23,642	27,164	34,973	21,630	28,602.12	39,237
Panaman	1	52	52	79	72	62.40	.....
Peruvian	5	6,194	13,098	20,501	10,464	7,742.50	5,166
Spanish	1	3,031	3,437	4,648	2,877	3,788.75	6,513
Swedish	5	11,827	17,793	19,622	14,522	14,783.75	27,764
United States	107	408,310	523,246	647,171	409,082	496,816.74	581,625
Totals, July, 1922	251	897,770	1,127,871	1,419,754	900,399	1,094,127.42	1,211,100
Totals, June, 1922	228	773,798	970,713	1,228,038	776,410	932,290.42	977,478
Totals, July, 1921	206	652,439	810,613	1,022,802	650,368	804,503.11	708,982

[1] Argentine training ship of 2,480 tons displacement.

LATIN-AMERICAN TRAFFIC.

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
British	23	57,989	70,775	95,884	59,001	$69,090.55	69,328
United States	8	17,272	21,460	28,080	17,230	19,731.13	13,316
German	3	9,869	11,732	13,346	8,139	12,326.45	7,911
Norwegian	3	6,811	7,297	9,202	5,648	7,718.67	6,363
Chilean	3	5,071	8,827	10,165	6,160	6,338.75	1,575
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	3,280
Peruvian	2	2,495	5,356	8,049	4,187	3,118.75	584
Japanese	1	3,684	4,241	5,850	3,642	4,605.00	5,287
Italian	1	3,331	4,287	5,850	3,646	4,163.75	1,984
Totals, July, 1922	46	110,614	140,253	183,059	111,695	132,208.05	109,628
Totals, June, 1922	55	154,609	191,669	254,371	157,465	180,392.04	156,996
Totals, July, 1921	42	78,594	99,714	136,403	82,573	94,585.33	55,525

PACIFIC TO ATLANTIC.

British	18	51,934	63,300	85,976	52,347	$60,699.47	58,058
United States	14	50,019	61,609	81,323	50,024	60,560.92	90,735
Chilean	3	4,535	7,801	9,096	5,521	5,668.75	1,321
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	4,582
Swedish	2	2,689	2,857	4,573	3,213	3,361.25	5,416
French	1	3,566	4,081	5,681	3,600	4,457.50	6,735
Italian	1	3,339	4,266	5,860	3,486	4,173.75	6,417
Spanish	1	3,031	3,437	4,648	2,877	3,788.75	6,513
German	1	2,550	3,392	4,177	2,588	3,187.50	5,904
Dutch	1	2,012	3,120	3,209	1,989	2,515.00	3,786
Totals, July, 1922	45	127,374	161,605	216,995	131,922	153,036.64	189,467
Totals, June, 1922	44	108,899	136,359	173,747	111,210	127,476.11	111,205
Totals, July, 1921	44	99,862	129,887	166,419	102,303	112,330.18	84,368

A further classification of commercial traffic is shown on the following page:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Cargo-carrying vessels:						
Laden	111	482,028	$478,019.10	119	534,232	$530,935.55
Ballast	16	92,203	69,959.01	4	19,408	13,973.76
Training ship	1	(1)	1,240.00	.....	.....	.....
Totals	128	574,231	549,218.11.	123	553,640	544,909.31
Steamships	121	553,425	529,309.71	117	529,975	521,949.31
Motor ships	3	18,512	15,911.25	5	23,593	22,881.25
Motor schooners	2	802	966.75	1	72	78.75
Bark	1	1,492	1,790.40	.....	.....	.....
Training ship	1	(1)	1,240.00	.....	.....	.....
Totals	128	574,231	549,218.11	123	553,640	544,909.31

[1] Argentine training ship of 2,480 tons displacement.

VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
British	8	41,806	$33,673.17	3	14,367	$10,344.24
Japanese	1	4,530	3,261.60	.....	.....	.....
Norwegian	1	2,091	1,505.52	.....	.....	.....
United States	6	43,776	31,518.72	1	5,041	3,629.52
Totals	16	92,203	69,959.01	4	19,408	13,973.76

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during July, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated.

The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls, are not included in the commercial traffic.

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
U. S. naval vessels:						
Supply ships	3	11,119	$13,342.80	2	[1] 17,600	$8,800.00
Tugs	1	[1] 1,000	500.00	1	[1] 1,000	500.00
Cruiser	.....	.....	.....	1	[1] 3,750	1,875.00
Submarine	1	[1] 845	422.50	.....	.....	.....
U. S. Army transports	2	10,033	11,039.60	3	11,757	14,108.40
Launches	1	6	4.50	1	1	.75
Totals	8	.....	25,309.40	8	.....	25,284.15

[1] Displacement tonnage.

The vessels listed above as transiting the Canal free of tolls carried cargo as follows:

	Tons.
Atlantic to Pacific ports	18,898
Pacific to Atlantic ports	1,938
Total	20,836

STATEMENT OF TERMINAL OPERATIONS.

Details of business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of July, 1922, are shown in the following tabulations:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	86,933	9,002	95,935
Local cargo shipped	tons	3,386	2,758	6,144
Transit cargo arriving	tons	1,232,282	1,269,794	2,502,076
Transit cargo clearing	tons	1,233,364	1,282,788	2,516,152
Cargo received for transshipment	tons	19,440	650	20,090
Cargo transshipped	tons	23,805	1	23,806
Vessels supplied with bunker coal:				
Commercial other than Panama Railroad		41	16	57
Panama Railroad vessels		2	.....	2
U. S. Army vessels		1	1	2
Total vessels supplied with coal		44	17	61
Coal supplied to above vessels:				
Commercial, other than Panama Railroad vessels	tons	13,653	8,126	21,779
Panama Railroad vessels	tons	629	.....	629
U. S. Army vessels	tons	453	32	485
Total coal supplied to vessels	tons	14,735	8,158	22,893
Coal issues, miscellaneous:				
Panama Canal departments	tons	362	3	365
Panama Railroad Company, excepting vessels	tons	11	15	26
U. S. Army, excepting vessels	tons	790	.....	790
Individuals and companies	tons	369	.....	369
Total coal issues from Panama Canal deposits:				
July, 1922	tons	16,267	8,176	24,443
June, 1922	tons	13,050	3,180	16,230
July, 1921	tons	25,465	2,145	27,610
Coal on hand, August 1, 1922	tons	135,371	4,114	139,485
Coal on hand, July 1, 1922	tons	144,613	12,290	156,903
Coal received during month	tons	7,025	.....	7,025
Fuel oil issues:				
Panama Canal departments	bbls	6,274	12,024	18,298
Panama Railroad Company	bbls	443	.....	443
Army and Navy	bbls	204	354	558
Individuals and companies	bbls	1	270	271
Total issues and sales	bbls	6,922	12,648	19,570
Fuel oil on hand, August 1, 1922	bbls	78,428	80,708	159,136
Fuel oil on hand, July 1, 1922	bbls	20,415	93,356	113,771
Fuel oil received during July, 1922	bbls	64,935	.....	64,935
Diesel oil issued during July	bbls	1,852	.....	1,852
Diesel oil on hand, August 1, 1922	bbls	48,707	887	49,594
Diesel oil on hand, July 1, 1922	bbls	50,282	887	51,169
Oil pumped for individuals and companies	bbls	692,530	108,857	801,387
Miscellaneous transfers	bbls	1,940	2,606	4,546
Total oil handled	bbls	768,178	124,111	892,289
Admeasurement certificates: U. S. equivalent issued or made		21	7	28
Measured for Panama Canal net tonnage		2	1	3
Remeasured for Panama Canal net tonnage		11	4	15
Panama Canal net tonnage corrected		13	9	22
U. S. equivalent tonnage corrected		14	15	29
Services of harbor equipment:				
Tugs, total operating hours		464.5	205.0	669.5
Launches, total operating hours		1,201.5	1,223.5	2,425.0
Scows, total operating hours		.....	67.5	67.5
Vessels repaired at Panama Canal shops:				
Commercial		28	14	42
Government		12	7	19
Canal equipment		8	22	30
Vessels dry-docked:				
Commercial		1	1	2
Government		5	1	6
Canal equipment		.....	3	3
Clearances issued		177	145	322
Bills of health issued		167	145	312

ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during July, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage
Ships entering.						
All vessels, including those transiting Canal	306	1,780,132	1,123,766	275	1,561,698	979,848
Vessels entering the port but not transiting Canal	60	314,185	194,388	11	38,752	24,176
Vessels transiting Canal and handling passengers or cargo	53	279,934	169,900	43	198,947	121,505
Ships clearing.						
All vessels, including those transiting Canal	309	1,778,020	1,123,679	274	1,552,284	974,243
Vessels entering the port but not transiting Canal	59	302,816	187,444	13	46,744	28,782
Vessels transiting Canal and handling passengers or cargo	57	289,385	176,187	42	191,391	118,407

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of July, 1922:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,013	1,284	2,297	2	.....	2
From Pacific ports	171	51	222	121	46	167
Total disembarking	1,184	1,335	2,519	123	46	169
Embarking:						
For Atlantic ports	1,302	709	2,011	7	5	12
For Pacific ports	178	52	230	147	98	245
Total embarking	1,480	761	2,241	154	103	257
Remaining on board vessels:						
From Atlantic to Pacific ports	503	830	1,333	636	807	1,443
From Pacific to Atlantic ports	597	742	1,339	907	1,193	2,100
From Atlantic to Atlantic ports	381	140	521	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	45	572	617
Total remaining on board	1,481	1,712	3,193	1,588	2,572	4,160
Total passengers arriving	2,665	3,047	5,712	1,711	2,618	4,329
Total passengers departing	2,961	2,473	5,434	1,742	2,675	4,447

COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of July, 1922:

	Ice.	Cold storage.	Groceries.	Laundry.	Miscellaneous.	Total.
Sales at Cristobal to:						
U. S. Government vessels	$242.92	$6,986.09	$72.56	.....	$268.90	$7,570.47
Panama Railroad vessels	58.08	3,853.94	60.27	.....	732.06	4,704.35
Other commercial vessels	1,446.94	13,992.13	3,948.36	.....	977.24	20,364.67
Total sales, July, 1922	1,747.94	24,832.16	4,081.19	.....	1,978.20	32,639.49
Total sales, June, 1922	1,240.15	38,653.53	4,274.38	$335.54	4,085.25	48,608.85
Total sales, July, 1921	2,944.29	23,933.48	4,896.24	4,932.41	1,788.23	38,494.65
Sales at Balboa to:						
U. S. Government vessels	167.91	8,446.25	5,992.68	.....	742.54	15,349.38
Other commercial vessels	298.60	5,081.47	704.72	629.99	793.18	7,507.96
Total sales, July, 1922	466.51	13,527.72	6,697.40	629.99	1,535.72	22,857.34
Total sales, June, 1922	104.92	6,684.17	2,076.10	.....	192.29	9,057.48
Total sales, July, 1921	1,414.87	22,072.99	7,873.39	1,058.21	692.72	33,112.18

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of July, 1922, as compared with the preceding month and with the corresponding month of last year:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Grand total.
	North.	South.	Total.	North.	South.	Total.	
Gatun	115	117	232	9	6	15	247
Pedro Miguel	122	126	248	14	12	26	274
Miraflores	122	125	247	12	10	22	269
Total lockages, July, 1922	359	368	727	35	28	63	790
Total lockages, June, 1922	268	389	657	39	54	93	750
Total lockages, July, 1921	297	302	599	48	40	88	687

NUMBER OF VESSELS PUT THROUGH LOCKS.

	Commercial.			Noncommercial.			Grand total.
	North.	South.	Total.	North.	South.	Total.	
Gatun	117	119	236	19	13	32	268
Pedro Miguel	123	128	251	25	21	46	297
Miraflores	123	128	251	22	21	43	294
Total vessels, July, 1922	363	375	738	66	55	121	859
Total vessels, June, 1922	279	398	677	74	88	162	839
Total vessels, July, 1921	306	326	632	123	87	210	842

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
Army and Navy vessels	13	15	16
Canal equipment	19	31	27

The total consumption of water for lockage, maintenance, and loss in leakage, was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	996,116,000	893,500,000	793,870,000
Leakage	20,000,000	18,300,000	20,000,000
Total consumption, July, 1922	1,016,116,000	911,800,000	813,870,000
Total consumption, June, 1922	945,450,000	861,852,000	755,210,000
Total consumption, July, 1921	805,760,000	804,450,000	799,030,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of July, 1922, are shown in comparative form:

Rainfall.	July, 1922.	July, 1921.	July—Years of record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Total rainfall for month:					
Pacific Section	7.06	7.93	12.16	5.40	8.41
Central Section	6.51	14.10	16.43	5.43	10.66
Atlantic Section	6.66	12.42	20.40	6.66	14.82
Over Gatun Lake watershed	5.97	13.31	18.21	5.63	11.08
Over Chagres River watershed above Alhajuela	7.98	13.92	20.10	7.92	14.48

Rainfall.	July, 1922.	July, 1921.	July—Years of record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Maximum recorded on any one day	3.14	3.29	[1] 10.86	.....	.....
Maximum record for month at any one point	11.53	20.71	34.96	.....	.....
Minimum record for month at any one point	1.72	4.32	.....	1.64	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	1,933	2,547	4,420	1,248	2,797
Maximum momentary discharge for the month	8,700	13,700	[2] 170,000	.....	.....
Gatun Lake watershed total yield	3,414	6,902	10,967	2,677	6,574
Gatun Lake watershed net yield	2,805	6,454	10,376	1,898	6,079
Draft on Gatun Lake for lockages and power	1,990	2,123	[3] 2,295	[3] 1,243	[3] 1,823

[1] This represents the maximum 24-hour rainfall recorded on the Canal Zone and immediate vicinity since American occupation. Recorded at Porto Bello on December 28-29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including July, 1914.

NOTE—Extreme outlying stations in the Republic of Panama are not included in this report.

SEISMOLOGY.

Very slight seismic tremors were recorded on the 6th, 9th, and 12th.

ELECTRICAL DIVISION.

POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	July, 1922.	June, 1922.	July, 1921.
Gross output, K. W. H.:			
Gatun hydroelectric station	4,234,700	4,243,800	5,541,100
Miraflores steam plant	5,050	3,140	500
Power distributed to consumers ..... KWH	3,577,845	3,592,053	4,601,656
Loss of power in plant auxiliaries, transmission, and transformation ..... KWH	661,895	654,887	939,944
Per cent of loss of power to gross output	15.61	15.42	17.00
Water consumption ..... cubic feet	3,437,939,069	3,425,116,580	4,110,077,816
Oil consumption ..... barrels	1,829.99	1,980	2,006

Miscellaneous electrical repairs and installations of electrical equipment were made on 23 vessels during the month. There were 411 work orders issued during the month for work to be performed by the Electrical Division, as compared with 307 for the month of June, 1922.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 48 vessels at Cristobal and 43 vessels at Balboa. Of these 6 were placed in dry dock at Cristobal and 5 at Balboa.

The following was the more important repair work performed:

On the steamship *Cauca* repairs were made to the condenser, refrigerator, circulating pump, steering chains, and plumbing. Three furnace fronts were straightened. The engine room telegraph was overhauled and the wire and chain leads adjusted. The fidley top was patched. The ports were re-rubbered and the galley stove re-bricked. The forward well deck was calked.

Work of rebuilding the damaged bow of the steamship *Nordfarer* was completed.

The U. S. S. *Birmingham* was placed in dry dock and a new port propeller shaft installed to replace the broken one. For this work a new shaft, rough machined, and a billet for the outboard coupling were supplied by the Navy Department from the United States. An inboard coupling was forged and heat treated and the shaft and 2 couplings machined at the Balboa shops.

The output of the foundry in patterns and castings for the month of July was as follows:

	June, 1922.			July, 1922		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	7	74	5,334	12	289	29,030
Steel	4	47	26,099	3	32	21,510
Nonferrous	9	249	3,930	2	208	4,099

The following is a statement of all job and blanket orders issued and completed during the month:

	Uncompleted, July 1.	Authorized in July.	Completed in July.	Uncompleted. July 31.
Job orders	273	390	404	259
Blanket orders	347	.....	4	343

DREDGING DIVISION.

East and West Culebra slides have shown intermittent movements during the month, while Cucaracha and Barge Repair slides have been quiescent. On the night of the 13th a small slide occurred just south of Cucaracha signal station between stations 1816–00 and 1819–50 on the west bank of the Canal. About 20,000 cubic yards of material moved into the Canal prism, of which 14,800 cubic yards were removed during the following 4 days. There was no interference with Canal traffic during the month on account of slides.

The total excavation during the month of July, including earth and rock, was 247,450 cubic yards, as follows:

Cubic yards.	Classified as— Earth.	Rock.	Character of work.	Stations.	Equipment
				Gaillard Cut.	
12,400	9,050	3,350	Maintenance	1784–00 to 1785–50 E	*Gamboa.*
29,050	6,050	23,000	Maintenance	1650–00 to 1658–00 E	*Gamboa.*
8,500	2,450	6,050	Maintenance	1628–00 to 1638–25 E	*Gamboa.*
14,800	2,700	12,100	Maintenance	1816–00 to 1819–50 W	*Gamboa.*
2,000	1,600	400	Maintenance	1610–00 to 1612–50 E	*Gamboa.*
				Gatun Lake.	
30,900	23,000	7,900	Maintenance	1444–00 to 1453–50 E	*Gamboa.*
				Pacific Entrance.	
36,000	36,000	....	Maintenance	2158–00 to 2163–50 W	*No. 83.*
45,800	....	45,800	Maintenance	2078–50 to 2109–80 W	*Cascadas.*
				Atlantic Entrance.	
52,000	42,000	[1] 10,000	Auxiliary	Slip between piers 8 and 9	*No. 83.*
				Coco Solo.	
16,000	16,000	.	Auxiliary	Naval Air Station	*No. 83.*
247,450	138,850	108,600			

[1] Coral rock.

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped north of Gamboa	97,650
Dumped at sea	81,800
Dumped north of Cristobal mole	52,000
Fill west of hangar No. 3, Coco Solo	16,000
Total	247,450

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	July, 1922.	June, 1922.	July, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	636,373,500	618,618,000	734,425,000
Filtration plants	367,976,000	363,414,000	449,527,000
Water consumed by Panama City	86,513,000	82,009,000	90,690,000
Water consumed by Colon	58,505,000	59,893,500	55,490,000
Sales of water to vessels	8,933,941	9,299,864	9,709,842

VITAL STATISTICS.

A total of 175 deaths occurred during the month of July, 1922, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 17.23 per thousand. The 3 leading causes of death were tuber-

culosis, pneumonia, and diarrhea and enteritis; these 3 diseases caused 44 per cent of all deaths from disease. There were 2 deaths from malaria, 1 from typhoid fever, 1 from dysentery, and 1 from diphtheria. Of the total deaths, 53, or 30 per cent, occurred among children under 5 years of age. There were 4 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 314 live births reported during the month, and 20 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 32.88 per thousand population. Deaths among children under 1 year of age numbered 35, giving an infant mortality rate, based on the number of births reported for July, of 111.46 per thousand live births.

One hundred and forty-five cases of malaria, originating in the Canal Zone and terminal cities during the month, were reported as follows:

White employees	4
Black employees	15
Army and Navy personnel	85
Nonemployees	41
Total	145

The monthly average of malaria cases in the past 2 fiscal years has been as follows:

	Employees.		Army and Navy.	Nonemployees.	Total.
	White.	Black.			
1921	4	14	21	17	56
1922	3	7	52	14	76

The abnormal increase of cases among Army and Navy personnel and nonemployees over the average for the past 2 years is accounted for by the fact that these 2 classes go into the unsanitated country adjacent to the Canal Zone and the terminal cities where malaria is endemic.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of July 31, 1922.			Total employees.		
	Men.	Women.	Children.	Total.	June, 1922.	July, 1921.
Americans	2,245	1,703	1,887	5,835	5,833	7,280
Europeans	90	42	93	225	225	238
West Indians	4,045	2,653	5,638	12,336	12,178	12,969
Totals, July, 1922	6,380	4,398	7,618	18,396	.....	.....
Totals, June, 1922	6,250	4,361	7,625	.....	18,236	.....
Totals, July, 1921	8,103	4,668	7,716	.....	.....	20,487

WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of July 19, 1922, by departments, together with a comparison of the working force for the preceding month and that of July, 1921:

	Employees as of July 19, 1922.			Total employees.	
	Gold.	Silver.	Total.	June, 1922.	July, 1921.
Operation and Maintenance:					
Office	28	35	63	65	65
Electrical	145	132	277	293	369
Municipal Engineering	86	571	657	735	865
Lock operation	177	540	717	693	738
Dredging	133	647	780	727	902
Mechanical	316	543	859	872	1,708
Marine	153	413	566	514	718
Fortifications	35	169	204	273	348
Totals	1,073	3,050	4,123	4,172	5,713

	Employees as of July 19, 1922.			Total employees.	
	Gold.	Silver.	Total.	June. 1922.	July, 1921.
Supply Department:					
Transportation	32	148	180	179	.....
Quartermaster	140	875	1,015	1,036	1,647
Subsistence	5	76	81	85	307
Commissary	170	757	927	906	1,401
Cattle Industry—Plantations	6	131	137	139	159
Hotel Washington	6	83	89	92	97
Totals	359	2,070	2,429	2,437	3,611
Accounting Department	188	7	195	187	216
Health Department	218	703	921	916	1,093
Executive Department	472	213	685	742	779
Totals	878	923	1,801	1,845	2,088
Panama Railroad:					
Superintendent	46	196	242	267	409
Transportation	68	99	167	166	214
Receiving and Forwarding Agency	65	545	610	689	962
Coaling stations	84	456	540	600	686
Totals	263	1,296	1,559	1,722	2,271
Grand totals, July, 1922	2,573	7,339	[1] 9,912	.....	.....
Grand totals, June, 1922	2,553	7,623	.....	10,176	.....
Grand totals, July, 1921	3,349	10,334	.....	.....	13,683

[1] The number of employees shown above is the smallest force employed on the Canal since the middle of the year 1905.

RECEIPTS AND SALES OF MATERIAL AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of July, sales to steamships from storehouses, cash sales from stock, etc., are shown below in comparative form:

	July, 1922.	June, 1922.	July, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and maintenance	$92,098.68	$102,181.89	$233,899.82
Construction and equipment	.....	.....	286.40
Miscellaneous	2,383.80	1,968.95	9,434.67
Totals	94,482.48	104,150.84	243,618.89
Cash sales on the Isthmus:			
Stock	21,538.69	21,233.14	36,324.40
Fuel oil	520.52	1,187.98	993.60
Scrap	2,183.17	613.26	728.95
Obsolete and second-hand material	1,065.31	2,656.92	3,040.20
Totals	25,307.69	25,691.30	41,087.15
Sales to steamships from storehouses	7,515.96	7,228.41	18,538.40

Respectfully,

JAY J. MORROW,
Governor.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending August 26, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Aysen	South American Line	August 20	August 23	92	298
Manavi	Pacific Steam Navigation Co	August 20	August 20	.....	38
Almagro	Pacific Steam Navigation Co	August 24	August 24	13	.....
Semperidem	R. E. Smyth	August 24	August 24	6	.....
Laura C. Hall	Pacific Metals Transp. Co., Ltd	August 25	August 26	5	.....
Salvador	Pacific Steam Navigation Co	August 26	August 26	.....	12
Acajutla	Pacific Steam Navigation Co	August 26	August 27	8	.....

Passage of Flotilla of Submarines.

Twelve United States submarines, numbered *H–2* to *H–9*, inclusive, and *L–5* to *L–8*, inclusive, accompanied by the tender *Beaver*, passed through the Canal on August 28, bound from Los Angeles and San Diego to Hampton Roads.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended August 26:

Motor ship *Principio*, renew 2 wrist-pin bearings; true 2 wrist pins and fit to new bearings, for Diesel main engine; launch *Frances*, tighten stern bearing; motor schooner *Laura C. Hall*, remetal and rebore 3 crank-pin brasses; file badly damaged crank pin; refit wrist pin for semi-Diesel main engine; steamship *Brush*, manufacture 2 brass follower plates for boiler feed pump.

PREVIOUSLY REPORTED.

Colombian coast guard cutter *No. 3*, general repairs to hull, machinery, and deck houses; U. S. submarine *O–16*, general running repairs and alterations; motor ship *Costa Rica*, heavy repairs to semi-Diesel main engine, due to breakdown; barge *No. 137*, dismantle, straighten, and replace shell plating damaged in collision with steamship *Nordfarer*.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending August 26, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Jamaica	Pacific Steam Navigation Co.	August 13		252	
Ulua	United Fruit Co.	August 13	August 13	26½	59
Helder	Royal Netherlands W. I. Mail	August 13	August 13	(1)	173
Solana	Pacific Mail Steamship Co.	August 13	August 14	10,000	(3)
Turrialba	United Fruit Co.	August 13	August 14	(1)	108
Alaska	French Line		August 14		183
Huasco	Chilean Line		August 16		440
Colon	Panama Railroad Steamship Line	August 13	August 19	2,290	1,248
Ucayali	Peruvian Line	August 14	August 19	780	415
Albaro	Italian Line	August 14		100	
Perou	French Line	August 14	August 18	44	135
Toloa	United Fruit Co.	August 15	August 16	225	20
Cartago	United Fruit Co.	August 15	August 17	753	(3)
Newport	Pacific Mail Steamship Co.	August 15	August 18	400	1,710
Tivives	United Fruit Co.	August 16	August 17	90	91
Carrillo	United Fruit Co.	August 16	August 17	½	20
Manavi	Pacific Steam Navigation Co.	August 17		713	
Salvador	Pacific Steam Navigation Co.	August 17		141	
Kinderdijk	Holland-American Line	August 17	August 18	26	152
West Ira	Tampa-Interocean Steamship Co.	August 17	August 17	50	(3)
Turrialba	United Fruit Co.	August 17	August 17	(2) 304	98
Santa Malta	Pacific Mail Steamship Co.	August 17	August 18	553	(3)
Canadian Seigneur	Canadian Government	August 18	August 18	25	(3)
Orita	Pacific Steam Navigation Co.	August 18	August 19	35	11
Manavi	Pacific Steam Navigation Co.		August 20		377
Toloa	United Fruit Co.	August 20	August 20	17	59
Ebro	Pacific Steam Navigation Co.	August 20	August 20	245	(3)
Haarlem	Royal Netherlands W. I. Mail	August 20	August 21	200	357
Atenas	United Fruit Co.	August 20	August 21	(1)	266
Losada	Pacific Steam Navigation Co.	August 21	August 22	162	18
Semperidem	R. E. Smyth	August 21	August 24	6	(3)
Van Rensselaer	Royal Netherlands W. I. Mail	August 21	August 22	59	(3)
Heredia	United Fruit Co.	August 21	August 24	690	(3)
Calamares	United Fruit Co.	August 22	August 23	173	151
Radames	Kosmos Line	August 22	August 23	(1)	35
Magellan	Pacific Steam Navigation Co.	August 22	August 22	(1)	134
Megna	James Nourse, Ltd.	August 22	August 23	500	(3)
Essequibo	Pacific Steam Navigation Co.	August 23	August 24	1	¼
Tivives	United Fruit Co.	August 23	August 24	2½	205
Cristobal	Panama Railroad Steamship Line	August 23		9,595	
Colombia	Pacific Mail Steamship Co.	August 23	August 24	57	274
Atenas	United Fruit Co.	August 24	August 24	5¼	91
Gen. W. C. Gorgas	Panama Railroad Steamship Line	August 24		2,182	
S. M. Spalding	Pan-American Pet. & Transp. Co.	August 24	August 25	10,000	(3)
Metapan	United Fruit Co.	August 24	August 24	204	178
Albaro	Italian Line		August 25		1,622
Almagro	Pacific Steam Navigation Co.	August 24	August 25	468	285
Urubamba	Peruvian Line	August 24		421	
Van Rensselaer	Royal Netherlands W. I. Mail	August 25	August 25	(1)	40½
Salvador	Pacific Steam Navigation Co.		August 26		765

[1] No cargo discharged. [2] Pounds. [3] No cargo laded.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, August 26, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kronborg	19	15.50	20	6.35	20	14.05	20	15.30	Danish	C. K. Hansen	330.0	47.0	18.6	Maceio	Valparaiso	Cotton seed	2,700	3,722	2,653
Calcutta Maru	20	9.00	20	9.20	20	16.25	20	17.48	Japanese	Nippon Yusen Kaisha	400.0	54.5	21.7	New York	Kobe	General	3,884	5,790	4,183
Manavi	17	14.08	20	10.30	20	17.50	20	23.45	British	Pacific Steam Navigation Co.	216.0	35.1	12.11	Cristobal	Guayaquil	Gen., explosives	371	1,357	884
Texan	20	12.30	20	12.45	20	19.13	20	20.30	American	American-Hawaiian Line	476.0	57.6	25.0	New York	Seattle	General	7,400	9,154	7,033
Ebro	20	5.15	20	12.47	20	19.55	21	4.35	British	Pacific Steam Navigation Co.	450.0	57.0	24.8	New York	Valparaiso	Merchandise	1,406	9,151	6,227
York City	20	1.15	21	6.25	21	13.44	21	14.57	British	W. R. Smith	411.0	55.0	28.3	Port Arthur	Taku Bar	Case oil	8,411	7,038	5,166
Charlton Hall	20	23.02	21	11.50	21	19.24	21	19.54	American	U. S. Steel Products Co	400.0	50.0	26.3	New York	Buenaventura	General	5,666	5,714	4,161
Kristianiafjord	22	1.10	22	6.30	22	14.07	22	15.38	Norwegian	Norway-American Line	421.0	55.8	18.0	Charleston	San Francisco	Ballast		7,349	5,181
San Joaquin	22	3.02	22	7.15	22	15.09	22	17.00	Norwegian	W. Wilhelmsen	425.4	57.1	27.6	Tampico	Taltal	Fuel oil	9,300	7,059	5,043
Santa Veronica	21	20.36	22	8.10	22	15.47	22	17.05	American	American & Cuban Line	251.0	43.6	23.9	New York	San Francisco	General, steel	2,993	2,823	1,740
Dorset	22	8.20	22	9.25	22	17.18	23	7.41	British	Federal Steam Navigation Co	460.0	58.2	26.0	London	Auckland	General	5,459	9,188	6,581
Losada[1]	21	21.56	22	12.45	22	20.18	22	21.45	British	Pacific Steam Navigation Co	419.0	54.2	25.6	Hull	Corral	Gen., coal, coke	7,577	7,221	4,844
Santa Elisa	22	13.05	23	6.53	23	14.37	23	17.02	American	Grace Line	360.3	51.7	22.7	New York	Talcahuano	General	2,053	5,957	4,325
Achatina	22	19.58	23	8.20	23	16.10	24	7.43	British	Anglo-Saxon Petroleum Co	412.0	53.3	20.0	London	San Francisco	Ballast		6,242	4,283
Benefactor	23	8.37	23	9.10	23	16.30	23	17.39	British	Harrison Line	410.7	52.0	21.0	Glasgow	Victoria	General, coke	3,100	6,314	4,322
Albert Jeffress	23	9.30	23	10.30	23	17.39	23	18.49	American	Garland Steamship Co	384.0	51.0	25.0	Philadelphia	Los Angeles	General	8,300	6,347	4,453
Balboa	3-14	14.21	23	11.40	23	18.57	24	6.00	American	Colombian Maritime Co	190.0	29.1	11.6	Cristobal	Buenaventura	Ballast		737	335
Sempronium	8-21	10.50	24	6.20	24	14.45	24	16.29	Costa Rican	R. E. Smyth	85.0	14.6	5.6	Bocas del Toro	Punta Arenas	Fruit	5	73	45
Steel Navigator	23	19.52	24	6.20	24	14.13	24	15.37	American	U. S. Steel Products Co	425.0	56.0	26.6	Baltimore	Seattle	General	8,596	7,611	5,454
A. L. Kent	24	9.15	24	9.30	24	16.35	24	17.55	American	Crowell & Thurlow	394.0	55.6	22.0	Boston	Everett	General	5,100	7,047	5,030
Elecedro	24	6.30	24	10.15	24	18.01	24	19.24	American	Los Angeles Dry Dock & S. B. Co	253.0	43.7	24.3	Galveston	San Francisco	Sulphur	3,311	2,751	1,718
Colombia	23	13.07	24	12.45	24	19.43	25	13.30	American	Pacific Mail Steamship Co	380.0	48.7	21.6	Baltimore	San Francisco	General	2,221	6,015	4,281
Miss Cristobal[2]			24		25	18.50			American	L. W. Parsons	24.4	6.2	2.0	Cristobal	Balboa	Ballast		2	2
Aconcagua	24	9.00	25	6.09	25	13.58	25	15.05	Chilean	Chilean Line	422.8	56.2	26.10	Glasgow	Valparaiso	Coal and general	4,770	7,758	4,705
Kentucky	25	8.15	25	8.35	25	15.50	25	17.20	British	Ellerman & Bucknell Line	447.0	56.0	26.10	New York	Yokohama	Cotton, steel, gen	8,115	7,825	5,921
Cuba[3]	20	9.30	25	11.00	25	18.50	25	20.35	American	U. S. Army	150.0	25.0	16.0	New York	Honolulu	Ballast			
Lieut. H. G. Douglas[4]			25	11.00	25	18.50	25	20.35	American	U. S. Army	101.0	22.0		Cristobal	San Diego	Ballast			
Nevada	25	8.10	25	11.20	25	17.56	27	3.49	French	French Line	420.2	56.2	20.0	Antwerp	San Francisco	General	1,600	7,484	5,408
Corinthic	25	11.15	25	11.40	25	18.55	26	13.32	British	White Star Line	500.3	63.3	26.0	London	Wellington	General	5,463	12,821	9,507
Lord Ormande	25	21.54	26	6.23	26	13.30	26	15.00	British	F. T. Walker	360.0	46.0	19.0	Mobile	Guayaquil	General	1,290		
Kentuckian	26	6.00	26	7.27	26	14.54	26	15.53	American	American-Hawaiian Line	414.5	53.7	23.0	Boston	Portland	General	5,445	7,049	4,941
Salvador	17	15.55	26	8.50	26	15.21	26	19.21	British	Pacific Steam Navigation Co	215.0	33.0	15.3	Cristobal	Champerico	General	765	1,213	692
Woron	26	6.20	26	10.05	26	17.45	27	24.00	British	Glovers Brothers	420.0	54.0	26.2	Port Arthur	Shanghai	Case oil	7,100	6,351	4,500
Irene II[5]	12		26		26	10.47			American	J. F. McCourt	20.0	8.0		Cristobal	Gatun Lake			4	3
Lisbon Maru	26	13.20	26	13.25	26	20.27	27	4.35	Japanese	Nippon Yusen Kaisha	445.0	58.0	25.0	New York	Shanghai	Petroleum	8,451	7,608	5,479

[1] Motor ship. [2] Launch. [3] Tug. [4] Mine planter. [5] Launch and panga.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Haarlem	19	19.00	20	7.46	20	16.46	21	17.55	Dutch	Royal Netherlands W. I. Mail	262.0	50.0	21.0	Valparaiso	Amsterdam	General	4,800	4,759	3,660
Orient	19	21.30	20	8.58	20	16.33	20	16.33	American	Oriental Steamship Co	376.4	52.3	23.2	Seattle	Norfolk	Salmon, lumber	6,000	5,455	3,879
Shunko Maru	20	6.30	20	9.35	20	17.33	20	19.00	Japanese	Osaka Shosen Kaisha	425.0	53.0	19.6	Singapore	New York	General	3,876	6,923	5,394
Cacique	20	8.15	20	10.24	20	19.32	20	22.15	American	Grace Line	394.0	52.3	28.0	Valparaiso	New York	Nitrate	8,807	6,652	4,913
Helen[6]			20		20	11.19			American	G. V. McCorkel	39.5	8.5	4.0	Balboa	Cristobal			12	11
Orleans	21	3.00	21	7.38	21	14.53	21	14.53	American	Oriental Navigation Co	395.5	55.0	24.8	Tacoma	Poughkeepsie	Lumber	8,000	7,330	5,233
Rio Azul	21	16.10	22	7.06	22	14.36	22	14.36	British	Sir William Peterson	363.1	53.2	22.6	Sydney	Hamburg	General	5,411	5,014	3,454
Volumnia	21	16.19	22	7.50	22	15.48	22	15.48	British	Kinsley Steamship Co	423.6	56.0	25.3	Makatea	Hampton R'ds	Phosphate	7,800	6,229	4,524
Magellan	22	5.30	22	8.54	22	16.50	22	23.20	British	Pacific Steam Navigation Co	461.6	59.3	25.8	Coronel	Liverpool	General	8,902	8,786	6,074
North American	21	17.00	22	10.00	22	16.45	22	16.45	British	American Metal Steamship Co	251.0	43.6	21.0	Buenaventura	New York	General	2,926	2,444	1,571
Radames	22	9.30	22	10.35	22	18.55	23	10.30	German	Kosmos Line	380.7	47.0	25.6	Corral	Hamburg	General	5,400	4,971	3,485
Walter A. Luckenbach	22	13.45	22	14.43	22	22.50	22	23.15	American	Luckenbach Line	446.5	56.1	25.6	Portland	New York	General	6,550	8,785	6,567
Terrier	23	0.05	23	8.07	23	15.40	23	17.20	Norwegian	Du Pont	400.0	52.0	24.0	Iquique	Cristobal[7]	Nitrate	8,250	5,639	4,161
Essequibo	23	11.30	23	13.04	23	19.40	24	24.45	British	Pacific Steam Navigation Co	450.0	58.0	26.0	Talcahuano	New York	General	4,141	9,099	6,117
Meiyo Maru	23	16.20	24	7.04	24	15.35	24	19.50	Japanese	Toyo Kisen Kaisha	400.0	53.0	24.6	Iloilo	New York	Sugar	7,139	6,163	4,376
Lake Fisher	23	17.40	24	7.42	24	15.22	24	15.32	American	N. O. & S. A. S. S. Co	253.4	43.9	23.0	Talcahuano	New Orleans	Nitrate	3,700	2,939	2,017
Robin Gray	24	2.00	24	8.48	24	16.00	24	16.00	American	Seas Shipping Co	424.0	55.2	26.0	Seattle	New York	General	6,207	7,472	5,542
D. G. Scofield	24	2.20	24	9.58	24	17.42	24	17.42	American	Standard Oil Co. of California	439.5	58.0	30.6	San Francisco	Philadelphia	Oil	11,249	8,912	6,254
Varg	24	4.00	24	11.02	24	19.20	24	20.35	Norwegian	P. Johannessen	231.7	35.1	17.4	Callao	New York	General	1,685	1,496	1,040
Almagro	24	3.00	24	11.53	24	19.10	25	1.40	British	Pacific Steam Navigation Co	303.4	43.0	16.6	Guayaquil	New York	General	395	2,878	1,714
Urubamba	24	1.45	24	13.18	24	20.15			Peruvian	Peruvian Line	381.2	46.1	16.0	Callao	Cristobal	General	358	4,803	2,951
Dardanus	24	15.10	24	6.51	25	15.05	25	18.05	Dutch	Blue Funnel Line	392.0	48.0	22.6	Vancouver	Liverpool	General	4,972	4,826	3,361
Mongolian Prince	26	6.00	26	7.37	26	16.00	26	16.55	British	Prince Line	423.5	56.0	24.0	Seattle	Glasgow	General	8,000	6,460	4,735
Gymeric	26	6.30	26	8.35	26	17.35	26	23.12	British	Andrew Weir & Co	420.3	54.6	26.0	San Francisco	London	Gasoline	8,514	6,591	4,459

[6] Commercial launch. [7] For orders. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
August 20	Atenas	United Fruit Co	New Orleans via Habana.	August 20	Toloa	United Fruit Co	New York via Habana.
August 20	Toloa	United Fruit Co	Port Limon.	August 21	Atenas	United Fruit Co	Bocas del Toro.
August 21	Heredia	United Fruit Co	New Orleans.	August 22	Van Rensselaer	Royal Netherlands W. I. Mail	Port Limon.
August 21	Van Rensselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.	August 23	Megna	James Nourse, Ltd	Kingston.
August 22	Calamares	United Fruit Co	New York via Habana.	August 23	Calamares	United Fruit Co	Port Limon.
August 22	Megna	James Nourse, Ltd	Rangoon.	August 24	Heredia	United Fruit Co	New Orleans via wayports.
August 23	Cristobal	Panama Railroad Steamship Line	Norfolk.	August 24	Tivives	United Fruit Co	New York via Kingston.
August 23	Tivives	United Fruit Co	Colombian ports.	August 24	Metapan	United Fruit Co	Colombian ports.
August 23	Metapan	United Fruit Co	New York via Kingston.	August 24	Atenas	United Fruit Co	New Orleans.
August 24	Atenas	United Fruit Co	Bocas del Toro.	August 25	Albaro	Italian Line	Genoa via wayports.
August 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.	August 25	S. M. Spalding	Pan.-Amer. Pet. & Transp. Co	Tampico.
August 24	S. M. Spalding	Pan-American Pet. & Transp. Co	Tampico.	August 25	Van Rensselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
August 25	Van Rensselaer	Royal Netherlands W. I. Mail	Port Limon.				

PORT OF BALBOA.

August 20	Aysen	Chilean Line	Talcahuano.	August 23	Aysen	Chilean Line	Valparaiso.

* Other than ships passing through the Canal.

Passage of Mexican Gunboat "Agua Prieta."

The Mexican gunboat *Agua Prieta* arrived at Balboa on August 24 from Guaymas, on the Pacific coast, and made the transit of the Canal on August 26. She is a vessel of 1,077 tons displacement, 208 feet in length by 30 feet beam, and was carrying a crew of 229. Shore liberty was given the crew and the customary official courtesies were exchanged. The *Agua Prieta* will clear for Vera Cruz on August 31.

Deepest Draft of Vessel Passing Through the Canal.

The steamer *Bethore* of the Ore Steamship Corporation, passing through the Canal on August 27 with 19,750 tons of iron ore, was drawing 34 feet 4 inches of water when entering Gatun Locks from the fresh water of Gatun Lake. This is the deepest draft recorded since the opening of the Canal.

The salt water draft of the *Bethore* was measured as 33 feet 3 inches.

The "Aconcagua" Added to Chilean Line Fleet.

The new cargo and passenger steamer *Aconcagua* of the South American Steamship Co. (Chilean Line), arrived at Cristobal on August 24, on her maiden voyage, coming out from Glasgow via Greenock. She was carrying 4,770 tons of coal and general cargo, but no passengers.

The *Aconcagua* is a handsome ship of 7,289 gross tons, 423 feet in length by 56 feet beam.

Sailings of Panama Railroad Vessels.

PANAMA RAILROAD COMPANY, OFFICE OF SUPERINTENDENT,
BALBOA HEIGHTS, C. Z., August 30, 1922.

To all concerned—Following proposed sailings of Panama Railroad steamers are announced:

CRISTOBAL-NEW YORK-PORT-AU-PRINCE SERVICE.

Steamer.	Leave Cristobal.	Leave Port-au-Prince.	Arrive New York.	Leave New York.	Arrive Port-au-Prince.	Arrive Cristobal.
Panama	September 9	September 12	September 16	September 25	September 30	October 2
Colon	September 19	September 22	September 26	October 5	October 10	October 13
Gen. W. C. Gorgas	September 29	October 2	October 7	October 15	October 21	October 24
Panama	October 9	October 12	October 16	October 25	October 30	November 2
Colon	October 19	October 22	October 26	November 5	November 10	November 13
Gen. W. C. Gorgas	October 29	November 1	November 6	November 15	November 21	November 24

CRISTOBAL-NORFOLK SERVICE.

Steamer.	Leave Cristobal.	Arrive Norfolk.	Leave Norfolk.	Arrive. Cristobal.
Cristobal	September 18	September 24	September 28	October 4
Cristobal	October 9	October 15	October 19	October 25

NEW YORK-HAITI AND WEST COAST SERVICE.
(Sailings subject to change.)

Steamer.	Leave Cristobal.	Arrive New York.	Leave New York via Haiti.	Arrive Cristobal.	Leave for west coast.
Gen. O. H. Ernst			August 18	September 1	September 2
Advance	September 3	September 14	September 24	October 9	October 12

W. F. FOSTER,
Acting Superintendent.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., September 6, 1922. No. 4.

Canal Traffic During August, 1922.

A total of 257 ocean-going commercial vessels transited the Canal during the month of August, 1922. Tolls on these vessels aggregated $1,055,336.75 as compared with $1,094,127.42 for 251 vessels in the preceding month and $955,380.78 for 236 vessels in the month of August last year.

In addition to the above commercial traffic, transit was made by 8 small launches, on which tolls of $31.85 were collected, and 25 United States Government vessels passed through the Canal free of tolls.

Traffic for the month was about 10 per cent greater than the average month's traffic during the past year, and was about equally divided as between eastbound and westbound. Grain shipments from the west coast of North America were comparatively light, while nitrate shipments from Chile showed a substantial increase.

Increase of Nitrate Shipments.

Nitrate shipments through the Panama Canal during the month of August totaled almost 100,000 tons and made up the heaviest month's traffic of this commodity since April, 1921.

Of the August shipments, 1,900 tons were destined to Cuba, approximately 60,000 tons to the east coast of the United States, and the remaining to the British Isles and Continental Europe.

The nitrate shipments through the Canal during the fiscal year ending June 30, 1922, aggregated 470,796 tons.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 2, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Calamares	United Fruit Co	August 27	August 27	2½	67
Cristobal	Panama Railroad Steamship Line	.....	August 28	.....	5
Abangarez	United Fruit Co	August 27	August 28	(1)	100
Hermes	Royal Netherlands W. I. Mail	August 27	August 28	153	16½
Acajutla	Pacific Steam Navigation Co	August 27	.....	373	.....
Gen. W. C. Gorgas	Panama Railroad Steamship Line	.....	August 29	.....	835
Parismina	United Fruit Co	August 28	August 31	1,296	(2)
Glamorganshire	Pacific Steam Navigation Co	August 29	August 29	71	95
Eemdijk	Holland-American Line	August 29	August 30	(1)	29
Murla	Roland Line	August 29	August 30	42	(2)
Laura C. Hall	Pacific Metals Corp	August 29	August 30	76	75
Haiti	French Line	August 29	August 31	24	102½
Merchant	Harrison Line	August 29	.....	594	.....
Sixaola	United Fruit Co	August 30	August 31	15	260
Orcoma	Pacific Steam Navigation Co	Auugst 30	August 31	55	63
Metapan	United Fruit Co	August 31	August 31	½	3
Abangarez	United Fruit Co	August 31	August 31	2	6½
Urubamba	Peruvian Line	.....	August 31	.....	476
Gen. O. H. Ernst	Panama Railroad Steamship Line	August 31	September 2	230	23
Advance	Panama Railroad Steamship Line	September 1	September 2	176	(2)
Balboa	Colombian Maritime Co	September 1	.....	583	.....
Panama	Panama Railroad Steamship Line	September 2	.....	1,753	.....
Santa Ana	Pacific Mail Steamship Co	September 2	.....	111	.....

[1] No cargo discharged. [2] No cargo laded.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 2, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Hermes	27	9.05	28	6.10	28	14.30	28	16.00	Dutch	Royal Netherlands W. I. Mail	363.0	48.0	14.3	Hamburg	Guayaquil	General	1,558	4,182	3,059
Queen Louise	28	13.23	28	13.25	28	20.25	29	3.00	British	Cadogan Steamship Co	405.0	53.0	20.0	Rotterdam	Los Angeles	Ballast		6,163	4,750
Tanker No. 1	7-27	8.28	29	6.22	29	14.07	29	15.21	American	U. S. Army	300.0	44.0	20.0	Puerto Lobos	San Francisco	Fuel oil	2,800		
Mundelta	28	14.00	29	7.40	29	14.55	29	16.04	American	Munson Line	370.0	53.0	23.6	New York	Los Angeles	Sulphur (crude)	4,803	5,668	4,297
Steel Seafarer	29	3.15	29	8.05	29	16.52	29	21.10	American	U. S. Steel Products Co	424.2	56.2	26.6	New York	Seattle	General, steel	8,900	7,611	5,454
George Washington [1]	29	5.20	29	9.30	29	17.25	30	17.30	Norwegian	Peter Olsen	445.0	55.0	26.0	Christiania	San Francisco	General	7,546	7,505	5,627
Herakles	29	8.30	29	10.25	29	18.28	29	19.55	Norwegian	Dupont Powder Co	390.0	54.0	24.0	Glasgow	San Antonio	Coke, powder	4,707	5,680	4,220
Robert Luckenbach	29	10.20	29	12.37	29	19.36	29	21.10	American	Luckenbach Line	445.0	58.0	22.6	New York	Los Angeles	General	5,450	8,617	6,297
Caveria [2]	29		29		29	8.19			Panaman	A Tagaropoulos	45.0	8.3	3.0	Cristobal	Gatun Lake			10	6
Talabot	29	4.36	30	6.27	30	14.34	30	15.40	Norwegian	N. S. Bjonnes & Son	410.7	56.0	31.10	Philadelphia	Hangchau	Case oil	9,400	8,279	6,328
Hatarana	30	6.00	30	8.15	30	15.00	30	18.25	British	British India Steam Nav. Co	445.0	58.3	26.1	New York	Adelaide	General	4,182	7,700	5,454
Oak Branch	30	8.20	30	9.05	30	16.39	30	17.48	British	F. & W. Ritson	385.0	49.1	18.6	Antwerp	Coronel	General	2,032½	5,209	4,031
Laura C. Hall [3]	29	18.30	30	9.05	30	16.28	1	8.39	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	40	132	72
Puenos Aires [1]	29	16.55	30	11.15	30	17.59	31	16.42	Swedish	Johnson Line	440.0	56.0	23.3	Antwerp	San Francisco	General	6,896	7,591	5,661
City of Dunedin	30	11.09	30	11.35	30	19.00	30	20.20	British	Ellerman Lines	476.0	60.0	23.6	New York	Melbourne	General, oil	5,883	8,691	6,015
Murla	29	23.30	30	11.49	30	19.45	30	21.59	German	Roland Line	267.0	42.0	16.4	Hamburg	Champerico	General	1,210	2,188	1,361
Paparoa	30	13.15	30	13.20	30	20.35	31	15.34	British	New Zealand Shipping Co	430.0	54.2	26.6	London	Wellington	General	3,669	7,894	5,857
Orcoma	30	12.50	31	6.20	31	14.12	31	16.45	British	Pacific Steam Navigation Co	511.6	62.0	27.10	Liverpool	Valparaiso	General	2,907	12,267	7,942
Steel Inventor	31	5.50	31	7.20	31	14.56	31	19.12	American	U. S. Steel Products Co	425.0	56.0	25.1	Baltimore	Los Angeles	General, steel	8,655	7,611	5,450
Pyro [4]	28	16.25	31	9.00	31	15.42	2	20.15	American	U. S. Navy	484.0	61.0	24.8	Hampton Rds.	San Francisco	Naval stores	3,470		
Urubamba	24	20.15	31	10.30	31	17.05	31	18.10	Peruvian	Peruvian Line	381.2	46.1	18.7	Cristobal	Guayaquil	General	438	4,803	2,951
Hopkins Brothers [5]	30	19.55	31	11.05	31	18.25	31	18.30	British	Hopkins Brothers	125.0	25.0	11.6	Southampton	Vancouver	Ballast		246	103
Roland	31	13.35	1	6.15	1	14.23	1	15.27	German	Roland Line	377.0	50.0	22.0	Hamburg	Buenaventura	General	4,079	4,791	3,374
Edgar F. Luckenbach	31	15.30	1	7.40	1	15.00	1	15.53	American	Luckenbach Line	425.0	57.3	26.0	New York	San Francisco	General	6,500	8,568	6,705
Ville de Tamative	10	7.58	1	8.05	1	15.53	1	15.25	French	Com. Hav. Pen. de Navigation	357.2	46.0	21.6	Fort de France	Tahiti	General	2,460	4,171	3,046
Sabine Sun	31	15.40	1	9.20	1	16.40	1	17.45	American	Sun Steamship Co	429.0	59.0	18.1	Chester	Los Angeles	Ballast		7,898	5,459
Escoval No. 2136 [6]	31		1		1	11.07			Panaman	Ernesto Ferana				Cristobal	Gatun Lake			2	2
Gen. O. H. Ernst	31	9.40	2	6.11	2		2	17.10	American	Panama Railroad Steamship Line	356.4	45.3	17.5	New York	Guayaquil	General	757	4,503	2,764
Craftsman	2	6.25	2	7.20	2		2	16.00	British	Harrison Line	455.4	56.0	23.9	Liverpool	San Francisco	General	5,300		

[1] Motor ship. [2] Launch. [3] Motor schooner. [4] Supply ship. [5] Tug. [6] Cayuco.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Acajutla	26	15.10	27	7.18	27	13.30			British	Pacific Steam Navigation Co.	215.7	33.5	13.10	Champerico	Cristobal	General	373	1,273	706
Agua Prieta[7]	24	4.00	27	8.13	27	14.39	31	8.45	Mexican	Mexican Government	208.0	30.0	13.6	Guaymas	Vera Cruz				
Irish Monarch	26	16.35	27	8.53	27	17.05	28	17.23	British	Raeburn & Verel	385.0	48.7	24.0	Ocean Island	Norfolk	Phosphate	5,850	4,662	3,397
Brush	26	19.45	27	9.55	27	18.35	27	18.35	American	North Atlantic & West. S. S. Co.	390.0	54.2	23.6	Portland, Oreg	Portland, Me.	General, lumber	5,500	6,209	4,317
Kronstad	27	7.30	27	10.53	27	18.10	28	16.50	Norwegian	Kinsley Steamship Line	313.0	46.5	19.6	Tocopilla	Jacksonville	Nitrate	4,253	2,963	2,070
West Jessup	27	8.30	27	11.40	27	19.05	27	19.05	American	Swayne & Hoyt	410.0	54.2	23.0	Seattle	Curacao	General, lumber	4,434	6,756	4,874
Professor	27	17.50	28	7.21	28	14.10	28	15.15	British	T. & J. Harrison	350.0	46.1	24.0	San Francisco	Liverpool	General	4,500	4,051	2,845
Texas	27	19.00	28	8.30	28	17.20	29	6.25	French	French Line	409.8	53.0	25.0	Vancouver	Le Havre	General	6,400	7,081	4,959
H-3[8]	28	4.30	28	10.01	28	17.13			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
H-4[8]	28	4.30	28	10.01	28	17.14			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
H-5[8]	28	4.30	28	10.06	28	17.17			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
H-2[8]	28	4.30	28	10.13	28	17.18			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
Beaver[9]	28	4.30	28	11.23	28	18.20			American	U. S. Navy	376.3	48.0	23.0	San Pedro	Hampton Rds.				
H-6[8]	28	4.30	28	11.06	28	21.46			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
L-6[8]	28	4.30	28	11.06	28	21.46			American	U. S. Navy	165.0	14.0	13.0	San Pedro	Hampton Rds.				
H-9[8]	28	4.30	28	11.20	28	21.46			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
L-8[8]	28	4.30	28	11.20	28	21.46			American	U. S. Navy	165.0	14.0	13.0	San Pedro	Hampton Rds.				
L-5[8]	28	4.30	28	11.55	28	20.12			American	U. S. Navy	165.0	14.0	13.0	San Pedro	Hampton Rds.				
L-7[8]	28	4.30	28	11.55	28	20.12			American	U. S. Navy	165.0	14.0	13.0	San Pedro	Hampton Rds.				
H-7[8]	28	4.30	28	11.55	28	20.12			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
H-8[8]	28	4.30	28	11.55	28	20.12			American	U. S. Navy	150.3	15.9	12.5	San Pedro	Hampton Rds.				
Cape Romain	24	5.30	28	14.01	28	22.10	30	15.10	American	Atl. Gulf & Pacific Co. (S. B.)	376.4	52.3	24.6	Portland	Norfolk	General	5,365	5,142	3,566
Tacoma[10]	27		29	8.48	29	15.40			American	U. S. Navy	292.0	44.0	16.3	Balboa	Cristobal				
Delco	29	0.45	29	9.55	29	18.14	30	17.20	American	Delco Steamship Line	328.0	46.2	19.0	Seattle	New York	Lumber	3,800	3,795	2,660
Laura C. Hall[9]	25	17.40	29	11.04	29	18.30	30	9.05	British	Pacific Metals Corp	61.0	25.6	10.0	Buenaventura	Cristobal	Coffee, drums	70	132	72
Eemdijk	29	13.10	29	13.35	29	21.45	30	11.01	Dutch	Holland-American Line	469.0	58.3	26.0	Vancouver	Rotterdam	Barley, general	8,714	8,514	6,066
Katrina Luckenbach	29	16.15	30	6.55	30	16.00	30	16.00	American	Luckenbach Line	446.0	56.0	24.6	Portland	New York	General	6,200	8,508	6,179
Chester Hall	30	12.15	30	13.23	30	22.05	30	23.35	American	U. S. Steel Products Co.	380.0	50.0	23.11	Iquique	New Orleans	Nitrate	8,700	4,945	3,508
Unita	30	17.00	31	6.58	31	14.40	31	19.52	Norwegian	Asiatic-American Steamship Co.	338.1	48.0	23.0	Portland	Montreal	Lumber	5,000	3,999	2,924
Cedar Branch	31	2.30	31	8.01	31	16.00	31	18.47	British	F. & W. Ritson	390.7	51.0	23.0	Punta Arenas	Liverpool	General	5,301	6,437	4,442
Caldo	31	4.34	31	8.52	31	16.35	31	16.35	American	Standard Oil Co	414.5	55.0	26.9	Talara	New York	Oil	9,003	4,912	3,642
Bethore	27	7.00	27	17.05	28	14.55	28	14.55	American	Ore Steamship Corp	550.3	72.2	33.3	Cruz Grande	New York	Iron ore	19,750	15,476	11,102
Thomas B. Beal	1	0.10	1	8.02	1	15.06	1	15.06	British	Crowell & Thurlow	394.1	55.1	27.2	Seattle	Boston	General, lumber	2,951	7,047	4,998
Advance	1	0.15	1	8.23	1	14.05	2	23.10	American	Panama Railroad Steamship Line	295.0	38.4	20.0	Guayaquil	New York	General	1,056	2,947	2,113
Curaca	1	2.15	1	9.20	1	17.40	1	22.10	Panaman	Grace Line	403.0	52.4	28.6	Punta Arenas	New York	General	8,625	6,804	4,897
Myrmidon	1	8.45	1	11.11	1	18.08	1	18.08	British	Alfred Holt	391.0	49.0	23.6	Yokohama	London	Canned salmon	5,010	5,221	3,257
Balboa	31	19.00	1	12.34	1	19.25			American	Stone & Yard	199.0	29.1	15.0	Buenaventura	Cristobal	Coffee	583	737	335
Delagoa Maru	1	5.30	2	7.51	2	15.05	2	15.05	Japanese	Nippon Yusen Kaisha	435.9	56.0	21.6	Kobe	New York	General	8,847	7,249	5,171
Santa Ana	1	16.25	2	7.06	2	13.29	3	3.12	American	Pacific Mail Steamship Co	360.2	51.6	23.0	San Francisco	New York	General	3,107	5,773	4,081
Henry D. Whiton	1	21.00	2	9.00	2	15.41	2	15.41	American	Union Sulphur Co	356.0	51.6	17.0	San Pedro	Sabine, Tex	Ballast		5,367	2,925
Australien	2	8.30	2	9.57	2	17.10	2	21.30	Danish	East Asiatic Steamship Co	410.0	56.0	26.6	Salaverry	Liverpool	General	8,391	7,027	5,338
Marore	2	9.20	2	10.46	2	19.00	2	19.00	American	Ore Steamship Corp	550.3	72.2	32.4	Cruz Grande	New York	Iron ore	19,500	15,551	4,297
Garfield	2	4.00	2	12.00	2	20.50	3	10.13	American	Grace Line	299.0	45.0	17.0	Salaverry	Pto. Colombia	General	1,250	3,228	2,010
Mobile City	2	10.40	2	12.22	2	20.45	3	5.10	American	Isthmian Lines	395.5	55.0	27.0	Tacoma	Boston	General	7,506	7,330	5,241

[7] Gunboat. [8] Submarine. [9] Submarine tender. [10] Cruiser. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 68, column 2.)

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 67.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Aug. 27	Abangarez	United Fruit Co.	New Orleans via Habana.
Aug. 27	Calamares	United Fruit Co.	Port Limon.
Aug. 28	Parismina	United Fruit Co.	New Orleans.
Aug. 29	Pastores	United Fruit Co.	New York via Habana.
Aug. 29	Glamorganshire	Royal Mail Steam Packet Co.	London.
Aug. 29	Haiti	French Line	St. Nazaire and wayports.
Aug. 29	Merchant	Harrison Line	Liverpool.
Aug. 29	Hannibal	U. S. Navy	Grand Cayman.
Aug. 30	Sixaola	United Fruit Co.	New York via Kingston.
Aug. 31	Metapan	United Fruit Co.	Colombian ports.
Aug. 31	Abangarez	United Fruit Co.	Bocas del Toro.
Sept. 1	Panama	Panama Railroad Steamship Line.	New York via Haiti.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Aug. 27	Calamares	United Fruit Co.	New York via Habana.
Aug. 28	Cristobal	Panama Railroad Steamship Line.	Norfolk.
Aug. 28	Abangarez	United Fruit Co.	Bocas del Toro.
Aug. 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
Aug. 29	Glamorganshire	Royal Mail Steam Packet Co.	Puerto Colombia.
Aug. 30	Pastores	United Fruit Co.	Port Limon.
Aug. 31	Parismina	United Fruit Co.	New Orleans and wayports.
Aug. 31	Sixaola	United Fruit Co.	Colombian ports.
Aug. 31	Metapan	United Fruit Co.	New York via Kingston.
Aug. 31	Abangarez	United Fruit Co.	New Orleans.
Aug. 31	Haiti	French Line	St. Nazaire and wayports.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., September 13, 1922. No. 5.

The "Roman Prince" Comes in Afire.

The steamship *Roman Prince* of the Prince Line, bound from Great Britain to the west coast of North America, arrived at the Canal after dark on September 12, with fire in the No. 4 hold. The fire had been discovered at sea on the 9th, and radio advice was sent ahead of the arrival of the ship. A fire tug met her outside the breakwater at Cristobal and escorted her to anchorage in the harbor, where the fire-fighting forces of the Canal commenced operations. In the morning of the 13th the vessel was taken alongside Pier 6, and two air lines were run down into the hold, to allow firemen to make their way down in the effort to locate the fire. The center of it was located below the main deck, directly aft of the engine room, and by 10 o'clock in the morning of the 13th it appeared that the fire was under control. The heat had made the after bulkhead of the engine room warp, and a stream of water was played on it to cool it.

The fire appears to have originated by spontaneous combustion among a lot of baled rags. The bales were used somewhat as buffers for crated goods, such as glassware. Discharge of cargo from the affected hold is now going on at Pier 6.

On Round Voyage Vessel Carries 38,000 Tons of Cargo Through the Canal.

Mention was made in THE PANAMA CANAL RECORD of August 9 of the transit on August 1 of the steamer *G. Harrison Smith* with 18,500 tons of crude oil, which was a record for size of a cargo of oil. The vessel was bound from Puerto Lobos to Antofagasta.

On her return voyage, the *G. Harrison Smith* passed through the Canal on September 7, bound from Cruz Grande to New York with 19,500 tons of iron ore.

For the round voyage the vessel handled a total of 38,000 tons of cargo through the Canal, which exceeds any previous loadings for a vessel for the 2 transits.

The record cargo, one way, is 20,000 tons. This was iron ore, carried through the Canal on July 19, by the steamship *Marore.*

Hair.

An item in the cargo of the steamship *Felix Taussig* of the Crowell & Thurlow Intercoastal Line, passing through the Canal on August 18 from Pacific to Atlantic ports of the United States was 47 bales of goats' beards, weighing 23,127 pounds. Another was 21 bales of human hair stumps, 10,497 pounds, and other shipments included sheep wool, pig bristles, and fox skins, with a great variety of general items, the principal being lumber, canned salmon, and ore.

Commercial Traffic Through the Panama Canal in August, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States coastwise:							*Long tons.*
United States	35	123,990	159,982	195,668	122,472	$146,881.68	158,098
From United States to Far East:							
Japanese	7	28,266	33,006	42,540	27,384	35,011.70	34,632
British	6	24,876	34,741	39,462	25,191	31,095.00	43,216
United States	5	22,162	27,728	33,511	21,653	27,702.50	41,043
Norwegian	2	8,769	11,318	12,588	8,771	10,961.25	12,425
French	1	4,417	5,072	7,006	4,420	5,521.25	9,000
Totals	21	88,490	111,865	135,107	87,419	110,291.70	140,316
From United States to South America:							
United States	10	34,745	41,565	55,828	34,687	37,044.89	17,687
British	4	11,261	14,302	18,442	11,413	14,076.25	7,986
Danish	1	1,754	2,166	2,925	1,748	1,559.52	.....
Swedish	1	1,349	1,458	2,316	1,630	1,686.25	2,573
Totals	16	49,109	59,491	79,511	49,478	54,366.91	28,246
From Europe to west coast of United States:							
British	5	17,289	21,767	27,548	16,631	16,437.00	5,932
French	2	8,582	10,262	10,994	6,689	10,519.60	2,100
Norwegian	1	4,523	5,627	7,093	4,479	5,653.75	7,546
Swedish	1	4,356	5,661	5,642	4,320	5,445.00	6,896
United States	1	4,039	4,941	6,433	4,007	5,048.75	5,445
Danish	1	3,269	5,317	5,259	3,302	4,086.25	5,339
German	1	326	406	588	322	292.32	.....
Totals	12	42,384	53,981	63,557	39,750	47,482.67	33,258
From Europe to west coast of South America:							
British	7	25,877	32,049	40,772	26,097	32,346.25	31,193
Dutch	2	3,262	6,182	5,410	3,303	4,077.50	3,298
Chilean	1	3,095	4,705	7,289	3,913	3,868.75	4,770
Norwegian	1	2,710	4,220	4,340	2,724	3,387.50	4,707
Totals	11	34,944	47,156	57,811	36,037	43,680.00	43,968
From Cristobal, C. Z., to west coast of South America:							
Peruvian	4	5,214	10,701	17,069	8,704	6,517.50	1,845
British	4	1,325	1,720	2,391	1,465	1,656.25	1,183
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	719
United States	1	334	335	615	373	250.50	.....
Totals	11	9,959	18,094	26,602	14,447	12,281.75	3,747
From Europe to Australasia:							
British	7	38,240	47,541	58,203	36,731	47,800.00	35,736
From east coast of United States to Australasia:							
British	5	25,025	32,241	40,070	24,966	31,281.25	27,630
From east coast of Mexico to west coast of South America:							
United States	2	7,527	8,686	12,174	7,555	9,408.75	15,000
British	1	9,616	11,102	15,371	9,326	12,020.00	18,500
Norwegian	1	4,418	5,043	6,987	4,422	5,522.50	9,300
Totals	4	21,561	24,831	34,532	21,303	26,951.25	42,800
From Europe to west coast of Canada:							
Dutch	1	4,860	6,068	7,651	4,796	6,075.00	3,135
United States	1	4,036	4,913	6,548	4,035	5,045.00	4,819
British	1	3,820	4,322	5,517	3,492	4,775.00	2,700
Totals	3	12,716	15,303	19,716	12,323	15,895.00	10,654
From east coast of Canada to Australasia:							
British	2	6,364	7,447	9,873	6,213	7,955.00	6,828
From east coast of South America to west coast of South America:							
Danish	1	2,309	2,653	3,525	2,200	2,886.25	2,700
British	1	650	692	1,128	650	812.50	660
Totals	2	2,959	3,345	4,653	2,850	3,698.75	3,360

ATLANTIC TO PACIFIC—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From east coast of United States to west coast of Canada:							*Long tons.*
United States	1	5,087	6,427	7,917	5,087	$6,358.75	6,440
Foreign vessel in ballast between United States coastwise ports:							
Norwegian	1	4,122	5,181	6,759	4,149	3,730.32	.....
From east coast of South America to Far East:							
Japanese	1	3,645	4,289	5,790	3,564	4,556.25	1,196
From east coast of South America to west coast of United States:							
United States	1	3,634	4,873	5,867	3,634	4,542.50	7,467
From east coast of Mexico to west coast of United States:							
Spanish	1	2,686	2,957	4,454	2,681	2,129.04	.....
From east coast of Canada to west coast of United States:							
Norwegian	1	2,155	2,471	3,371	2,004	2,693.75	3,400
From Cristobal, C. Z., to west coast of United States:							
United States	1	1,654	2,163	2,643	1,654	2,067.50	1,675
From Europe to west coast of Central America:							
German	1	1,118	1,361	2,064	1,182	1,397.50	1,210
From Cristobal, C. Z., to west coast of Central America:							
British	1	638	706	1,170	654	797.50	727
Miscellaneous (tugs, launches, etc.):							
British	2	56	112	254	111	65.50	.....
Costa Rican	1	43	45	50	35	53.75	5
Totals, August, 1922	141	480,579	611,862	765,642	478,744	576,958.32	556,761
Totals, July, 1922	128	454,736	574,231	722,758	453,528	549,218.11	542,412
Totals, August, 1921	120	394,295	487,219	607,852	387,071	465,017.24	317,970

PACIFIC TO ATLANTIC.

United States coastwise:							*Long tons.*
United States	25	100,558	127,577	158,406	100,868	$125,697.50	164,150
From west coast of South America to east coast of United States:							
United States	11	43,626	50,703	67,035	43,500	54,183.30	86,778
British	5	12,039	15,296	20,708	12,519	15,048.75	17,354
Norwegian	4	7,942	9,866	12,515	7,636	9,927.50	18,689
Danish	1	2,438	2,485	2,647	1,685	2,982.00	4,417
Totals	21	66,045	78,350	102,905	65,340	82,141.55	127,238
From west coast of South America to Europe:							
British	7	24,084	32,393	38,741	24,178	30,105.00	45,225
German	2	5,621	8,115	9,371	5,531	7,026.25	11,784
Dutch	2	4,514	7,467	7,312	4,520	5,642.50	9,991
French	1	3,600	4,146	5,765	3,681	4,500.00	6,800
Totals	12	37,819	52,121	61,189	37,910	47,273.75	73,800
From Far East to east coast of United States:							
United States	4	18,345	22,354	29,008	17,896	18,808.53	13,083
Japanese	4	17,513	19,525	25,286	17,077	21,545.60	24,879
British	1	6,745	6,928	7,027	4,463	8,431.25	7,871
Totals	9	42,603	48,807	61,321	39,436	48,785.38	45,833
From west coast of South America to Cristobal, C. Z.:							
British	5	2,182	2,738	3,839	2,355	2,727.50	1,492
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	2,919
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	48
Totals	9	8,003	14,235	20,303	11,241	10,003.75	4,459

PACIFIC TO ATLANTIC—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of United States to Europe:							*Long tons.*
United States	3	12,491	17,912	20,100	12,559	$15,613.75	24,546
British	3	9,162	11,756	14,530	9,106	11,452.50	20,557
Japanese	1	5,055	5,139	6,786	5,077	6,166.80	8,893
Dutch	1	4,863	6,066	7,655	4,799	6,078.75	8,678
Totals	8	31,571	40,873	49,071	31,541	39,311.80	62,674
From west coast of Canada to Europe:							
British	3	11,789	16,537	18,755	11,883	14,736.25	25,027
French	2	8,998	9,735	13,093	8,253	11,099.55	15,216
Dutch	1	2,793	3,361	4,335	2,761	3,491.25	5,352
Danish	1	4,207	5,286	5,296	3,325	5,258.75	8,668
Totals	7	27,787	34,919	41,479	26,222	34,585.80	54,263
From Australasia to Europe:							
British	6	23,447	28,182	36,305	23,150	29,308.75	33,609
From west coast of Canada to east coast of United States:							
United States	2	8,987	11,075	14,311	8,957	11,233.75	11,712
From west coast of United States to east coast of Canada:							
Norwegian	2	4,782	5,966	7,238	4,763	5,977.50	11,253
From west coast of Central America to Europe:							
German	1	2,404	2,496	2,575	1,626	2,995.20	3,326
French	1	851	854	1,091	747	1,063.75	1,163
Totals	2	3,255	3,350	3,666	2,373	4,058.95	4,489
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,252	1,328	2,308	1,256	1,543.90	625
From west coast of United States to east coast of Mexico:							
Norwegian	1	4,418	5,043	6,987	4,422	3,630.96	.....
From west coast of South America to east coast of Mexico:							
British	1	4,378	4,822	7,337	4,286	3,471.84	.....
From Far East to Europe:							
Japanese	1	3,859	4,440	6,079	3,850	4,823.75	8,050
From west coast of United States to east coast of South America:							
United States	1	3,635	4,874	5,868	3,635	4,543.75	4,769
From Australasia to east coast of United States:							
British	1	3,282	4,135	5,757	3,554	4,102.50	1,465
From west coast of United States to Cristobal, C. Z.:							
United States	1	1,654	2,163	2,643	1,654	2,067.50	800
Miscellaneous (warships, launches, etc.):							
Japanese	3	(1)	(1)	(1)	(1)	15,239.50	.....
Mexican	1	(2)	(2)	(2)	(2)	568.00	.....
United States	1	11	11	12	10	8.25	.....
Totals, August, 1922	116	377,346	472,271	593,275	374,468	478,378.43	609,189
Totals, July, 1922	123	443,034	553,640	696,996	446,871	544,909.31	668,688
Totals, August, 1921	116	398,147	478,057	611,965	393,874	490,363.54	521,303

[1] Three Japanese cruisers with displacement tonnage of 30,479.
[2] Mexican gunboat with displacement tonnage of 1,136.

Shipping from Middle West to West Coast by Canal.

Gen. R. E. Wood, retired, formerly Chief Quartermaster for The Panama Canal and now in business in Chicago, states in a letter to the present Chief Quartermaster that his firm is shipping practically everything for its branch in Portland, Oreg., whether from the east or the middle west of the United States, by way of the Canal. He adds, "It makes a tremendous saving."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 9, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Pastores	United Fruit Co	September 3	September 3	66	86
Santa Ana	Pacific Mail Steamship Co		September 3		2
Turrialba	United Fruit Co	September 3	September 4	½	128
Montana	French Line	September 3	September 4	36	[2] 7
Crijnssen	Royal Netherlands W. I. Mail	September 3	September 5	25	(3)
Alaska Maru	Osaka Shosen Kaisha	September 4	September 4	(1)	62
Orestes	Royal Netherlands W. I. Mail	September 4	September 6	511	253
Palena	Chilean Line	September 4	September 6	287	641
Cartago	United Fruit Co	September 4	September 6	884	(3)
Cuba	Pacific Mail Steamship Co	September 5		764	
Huallaga	Peruvian Line	September 5		1,520	
Ulua	United Fruit Co	September 5	September 6	391	3
Carrillo	United Fruit Co	September 6	September 7	287	191
Acajutla	Pacific Steam Navigation Co		September 7		688
Turrialba	United Fruit Co	September 7	September 7	7	35
Sixaola	United Fruit Co	September 7	September 7	1	5
Ortega	Pacific Steam Navigation Co	September 8	September 8	21	19
Crijnssen	Royal Netherlands W. I. Mail	September 8	September 9	(3)	149
Trompenberg	N. O. & S. A. S. S. Line	September 8	September 9	57	(3)
Panama	Panama Railroad Steamship Line		September 9		3,421
Venezuela	Pacific Mail Steamship Co	September 9		302	
Conde de Churruca	Anglo-Saxon Petroleum Co	September 9		6,000	

[1] No cargo discharged. [2] Cases. [3] No cargo laded.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended September 9:

Dredge *Mexico*, dry-dock dredge for repairs due to damage to bottom; remove, fair, and replace 3 bottom plates; fair in place 6 bottom plates, frames, and stiffeners; raise rudder for examination; remetal port and starboard strut bearings; stage, clean, and wire brush for painting; paint bottom 2 coats of anticorrosive and 1 coat of antifouling U. S. Navy standard Norfolk paint; perform miscellaneous machine repairs as requested by chief engineer; and perform miscellaneous shipwright work as requested by captain; steamships *Hopkins Brothers*, renew steam end piston rings for circulating water plunger pump; *G. Harrison Smith*, furnish and install 2 large cast steel closed chocks, aft.

PREVIOUSLY REPORTED.

Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck houses; U. S. submarine *O–16*, general running repairs and alterations; motor ship *Costa Rica*, heavy repairs to semi-Diesel main engine, due to breakdown.

The following vessels were at the Cristobal shops for repairs during the 3 weeks ended September 11:

Steamships *Urubamba*, manufacture 2 special hose fittings; electric weld boiler and install 6 new fusible plugs; *Acajutla*, repair 'tween deck and top hatches of Nos. 1 and 2 holds; rerubber saloon ports; repair galley stove, scupper pipe, exhaust pipe for windlass and engine room bilge hand pump; rebush valve gear for port fuel pump, etc.; *Cristobal*, machine and fit low pressure piston rings; patch motor boat hull; fit shrouds on 2 eccentrics; repair piping, etc.; *Crijnssen*, make 2 new pistons, 2 bull rings, 2 piston rings; renew end of piston rod and furnish nut for No. 1 after port winch; *Eldorado*, repair generator, copper heater coils, condenser head; coils for ice machine and brickwork in boilers; manufacture 5 special wrenches for engineers, etc.; *Gen. W. C. Gorgas*, scale fireroom fidley; repair fire line, and install new pintle in rudder; *Balboa*, dry-dock, clean, and paint; repair lead pipe and renew strainer; manufacture 6 rods, caps for boiler tubes and wooden plugs as directed; schooner *Linda S.*, dry-dock; repair housing and gear of engine; repair rudderpost, etc.; U. S. S. *Hannibal*, renew brickwork in 6 furnaces and 6 combustion chambers; roll tubes and calk and renew rivets in boilers; make hydrostatic test; manufacture disks and springs as directed, etc.; dredge *No. 84*, dry-dock, clean, and paint; plug all discharge holes; patch all holes in deck plates; batten all hatches; remove spuds and lash on deck and lash all movable parts; install wooden freeboard and false bow, etc.; steamships *Conde de Churruca*, *East Wind*, *Hermes*, *Gen. O. H. Ernst*, *Panama*, *Advance*, U. S. S. *Beaver*, U. S. S. *O–13*, U. S. S. *O–14*, and motor ship *Polaris*, minor repairs.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 9, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
El Oso	3	1.02	3	6.35	3	14.20	3	17.05	British	Lobitos Oil Fields, Ltd	440.0	57.0	20.0	Amsterdam	Los Angeles	Ballast		7,478	4,964
Diana Dollar	3	1.15	3	7.05	3	15.09	3	22.35	American	Dollar Line	429.0	55.0	23.0	Baltimore	San Francisco	General	6,714	7,582	5,521
Radix	3	6.55	3	8.15	3	16.01	3	20.30	British	Anglo-Saxon Petroleum Co	412.0	56.0	19.0	Rotterdam	San Francisco	Ballast		7,428	5,277
Port Piric	3	12.55	3	12.05	3	18.50	3	19.54	British	Commonwealth and Dom. Line	470.0	59.0	24.0	New York	Brisbane	General	2,753	9,381	6,915
Eastern Planet	3	6.35	3	12.10	3	19.45	3	20.50	American	U. S. and Australasia Line (S. B.)	387.8	51.2	26.10	New York	Melbourne	Case oil		6,740	6,235	4,480
Ipswich	3	8.20	3	12.35	3	20.30	3	21.35	American	Shawmut Steamship Co	400.7	54.2	21.5	Baltimore	Seattle	General	5,978	6,616	4,569
Artigas	3	12.35	3	12.50	3	21.20	3	22.30	American	N. Atl. & West. S. S. Co. (S. B.)	401.0	54.0	20.0	Philadelphia	Los Angeles	General	3,214	6,204	4,314
Putnam [1]			3		3	13.55			American	U. S. Army				Cristobal	Gatun Lake				
Swiftstar	3	16.30	4	6.25	4	14.04	4	15.23	American	C. D. Mowbray	465.0	60.2	24.0	Philadelphia	Los Angeles	Ballast		8,473	6,050
Elkton	4	2.25	4	7.10	4	14.57	5	7.45	American	Barber Line (S. B.)	402.0	54.6	24.0	New York	Hongkong	Gen., case oil	5,807	6,929	5,216
Glamorganshire	4	7.10	4	9.00	4	15.43	4	16.40	British	Royal Mail Steam Packet Co	445.0	58.0	15.6	Savanilla	Los Angeles	General	1,607	8,229	5,982
Patuxent [2]			4	8.35	4	16.50			American	U. S. Navy	156.0	29.0		Cristobal	Balboa				
Alaska Maru	4	2.37	4	10.35	4	17.44	4	18.48	Japanese	Osaka Shosen Kaisha	420.0	56.0	18.11	New York	Shanghai	General	1,886	7,623	5,502
Montana	3	22.30	4	11.18	4	18.25	4	19.25	French	French Line	410.0	51.0	22.6	Bordeaux	Valparaiso	General	266	6,327	4,369
Oaxaca	4	11.50	4	12.05	4	19.10	5	7.30	British	Cayzer Irvine & Co	254.0	35.0	15.0	Portsmouth	Corinto	Ballast		1,516	971
Cowrie	4	15.47	5	6.20	5	14.07	5	17.47	British	Anglo-Saxon Petroleum Co	376.0	48.0	21.6	London	Los Angeles	Ballast		5,377	3,834
Orteric	4	11.53	5	7.18	5	15.53	5	17.04	British	Andrew Weir & Co	412.0	55.0	27.0	New York	Tientsin	Case oil		9,000	7,159	5,309
Mytilus	5	12.10	5	8.05	5	16.39	5	21.28	British	Anglo-Saxon Petroleum Co	412.0	53.0	23.8	Port Arthur	Shanghai	Oil		7,672	6,124	4,479
Willhilo	5	3.27	5	9.00	5	17.21	5	18.21	American	Williams Steamship Co	434.0	57.6	20.6	New York	Los Angeles	General		7,767	7,983	5,882
West Katan	5	10.05	5	10.20	5	19.08	5	19.58	American	Swayne & Hoyt (S. B.)	410.0	54.0	21.6	Santos	Los Angeles	General		5,709	6,573	4,901
Negada	5	14.50	6	6.15	6	13.57	6	15.07	German	Kosmos Line	410.0	51.0	22.10	Hamburg	Corral	General		4,314	6,402	4,463
Lydia	5	22.37	6	7.30	6	15.28	6	16.37	American	Lydia Steamship Co	366.0	48.0	24.0	New Orleans	Los Angeles	General		4,718	4,620	3,343
Santa Eulalia	5	22.54	6	8.03	6	16.17	6	21.05	American	American & Cuban S. S. Line	251.0	43.6	22.0	New York	San Diego	General		3,088	2,823	1,730
Koyo Maru	6	4.30	6	9.06	6	16.55	6	17.59	Japanese	Toyo Kisen Kaisha	400.0	53.0	25.8	New York	Japan	General		5,240	6,233	4,398
Palena	3	15.35	6	13.13	6	19.34	6	21.52	Chilean	Chilean Line	350.0	42.1	23.2	Cristobal	Valparaiso	General		542	3,666	2,577
Acajutla	8–27	13.30	7	6.03	7	14.30	7	17.35	British	Pacific Steam Navigation Co	215.7	33.5	14.8	Cristobal	Champerico	General		670	1,273	706
Balboa	1	19.25	7	6.09	7	14.35	7	16.55	American	Colombian Maritime Co	190.0	29.1	12.0	Cristobal	Guayaquil	General		42	737	335
Alaskan	6	17.59	7	7.13	7	17.36	7	18.22	American	American-Hawaiian Line	471.0	56.0	22.3	Philadelphia	Los Angeles	General		6,000	9,250	6,816
Hanover	6	22.55	7	8.15	7	18.32	8	2.38	American	Tampa Interocean S. S. Co. (S. B.)	434.3	57.7	27.0	Tampa	Yokohama	(3)		7,680	7,982	5,911
Harry Luckenbach	7	6.30	7	9.35	7	19.19	7	20.18	American	Luckenbach Line	448.9	60.2	26.0	New York	Los Angeles	General		6,300	9,262	6,853
Poplar Branch	7	20.19	8	6.27	8	14.13	8	17.05	British	Nautilus Steamship Co	396.2	56.2	21.6	Port Talbot	Corral	General		4,975	6,640	5,099
Delft	7	18.45	8	12.10	8	19.37	9	12.18	Dutch	Royal Netherlands W. I. Mail	384.6	50.0	15.0	Hamburg	Guayaquil	General		1,327	5,862	4,393
Durham	8	7.02	8	12.45	8	21.05	8	22.12	British	Federal Steam Navigation Co	420.0	54.0	26.11	Liverpool	Auckland	General		4,922	7,138	5,296
Trelissick	8	17.38	9	6.30	9	14.30	9	16.16	British	Edward Hain & Son	400.0	52.0	25.2	Port Arthur	Sydney	Case oil		6,600	5,804	4,066
Patuxent [4]	5	18.03	9	6.34	9	14.00			American	U. S. Navy	156.0	29.0		Cristobal	Balboa				

[1] Launch. [2] Tug and Navy barge. [3] Cotton, case oil, phosphate, and general. [4] Tug.

Trompenberg	8	11.40	9	7.26	9	14.51	9	15.00	Dutch	Vinke & Co	281.0	40.3	16.2	New Orleans	Buenaventura	General	1,161	2,213	1,521
William Campion	8	21.30	9	8.15	9	15.51	9	17.10	American	Garland Steamship Corp	384.4	51.2	25.6	Mobile	Tacoma	General	6,700	6,327	4,433
Trevean	8	21.50	9	9.25	9	16.35	9	18.00	British	Hain Steamship Co	400.0	52.0	24.6	New York	Pago pago	General, case oil	5,800	6,085	4,342
Norman Monarch	8	22.15	9	10.35	9	17.49	9	18.58	British	Monarch Steamship Line	400.0	52.0	18.0	Newport News	Mejillones	Ballast	.....	5,568	4,146
Floridian	8	22.29	9	11 04	9	18.59	9	20.22	American	American-Hawaiian Line	415.0	53.6	23.0	Boston	Bellingham	General	4,715	7,273	5,105
Euryades	9	7.45	9	11.50	9	19.55	9	22.15	British	Alfred Holt & Co	428.5	54.0	28.0	New York	Yokohama	General	6,030	6,914	4,954
Santa Barbara	9	10.20	9	11.55	9	20.32	9	21.40	American	Grace Line	404.6	53.9	28.4	New York	Seattle	General, steel	8,304	6,789	4,746

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Atto	2	17.00	3	7.02	3	16.45	3	22.27	German	Roland Line	361.0	51.0	23.3	Talcahuano	Hamburg	General	5,709	4,805	3,400
Yngaren	2	17.20	3	8.13	3	17.10	3	19.50	Swedish	Transatlantic Steamship Co	422.5	53.8	26.0	Portland	Leith	General	7,830	6,972	5,122
Grande Gaard	2	18.30	3	9.03	3	17.44	3	20.28	Norwegian	Kerr Steamship Co	420.1	54.0	26.0	Shanghai	Boston	General	9,000	6,963	5,051
Oneka	2	22.18	3	9.55	3	19.05	3	9.00	British	Grace Line	411.6	52.3	26.6	Mejillones	New York	Nitrate	8,000	6,532	4,920
Nordfarer	3	11.05	3	12.05	3	19.15	3	21.05	Danish	Grace Line	364.0	47.6	23.6	Iquique	Cristobal[s]	Nitrate	5,900	4,289	3,106
Helredale	3	11.50	3	12.35	3	21.15	3	23.20	British	Andrew Weir & Co	346.5	50.6	22 0	Antofagasta	Alexandria	Nitrate	6,000	4,259	3,180
Nitrokis	3	19.50	4	7.00	4	15.00	4	21.05	German	Kosmos Line	410.9	50.7	25.5	Corral	Hamburg	General	6,150	6,652	4,704
Palena	3	12.30	4	8.20	4	15.25	6	13.13	Chilean	South American Line	350.0	42.1	21.6	Talcahuano	Cristobal	General	500	3,666	2,577
Scotis Monarch	3	20.00	4	8.40	4	16.30	4	19.20	British	Kinsley Steamship Lines	420.5	54 3	24.6	Makatea Is	Europe	Phosphates	7,900	6,321	4,548
Orestes	3	23.00	4	9.48	4	17.37	6	12.20	Dutch	Royal Netherlands W. I. Mail	363.0	48.0	19.7	Valparaiso	Amsterdam	General	3,430	4,166	3,083
Santa Teresa	4	5.15	4	11.10	4	17.30	4	21.15	American	Grace Line	360.2	51.6	24.0	Talcahuano	New York	General	4,100	5,726	4,086
Eldorado	4	8.15	4	12.08	4	19.12	9	20.20	American	Swayne & Hoyt	245.6	42.0	18.0	Seattle	New Orleans	General	2,246	2,439	1,662
Miss Cristobal[s]	.....	.....	4	.....	4	.....	.....	.....	American	Leslie Parsons	24.4	7.0	2.0	Balboa	.....	.....	.....	.....	.....
Cuba	4	7.00	5	7.02	5	14.10	.....	.....	American	Pacific Mail Steamship Co	307.7	42 2	24.7	San Francisco	Cristobal	General	751	3,429	2,206
East Wind	4	6.15	5	8.04	5	16.25	6	17.35	American	United States & American Line	384.3	51.2	18.0	Sydney	New York	General	800	5,966	4,442
Amalthus	5	2.00	5	8.57	5	16.30	5	16.30	British	Anglo-Saxon Petroleum Co	412.0	53.8	24 0	San Pedro	Cristobal[s]	Oil	7,400	6,242	4,300
Canadian Leader	5	8.45	5	9.51	5	17.28	5	19.43	British	Canadian Government	403.0	52.4	19 0	Brisbane	Montreal	General	3,067	5,389	4,103
Patuxent	.....	.....	5	10.50	5	18.03	9	6.34	American	U. S. Navy	156.0	24.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Sandon Hall	4	14.10	5	12.57	5	20.25	5	20.25	British	Ellerman Hall Line	406.0	52.0	23.0	Vancouver	Leith	General	7,316	7,316	4,856
Huallaga	5	5.00	5	13.34	5	21.42	11	10.35	Peruvian	Peruvian Line	360.0	44.7	20.0	Ilo, Peru	Cristobal	General	1,464	4,514	2,386
Steel Ranger	5	13.14	5	14.29	5	22.25	5	22.25	American	Isthmian Steamship Co	424.2	56.2	26.5	Seattle	New York	Canned goods	6,350	7,611	5,450
Arizonan	5	23.00	6	7.59	6	17.20	7	5.10	American	United American Lines	470.1	57.2	30.0	Los Angeles	Hamburg	General	9,129	9,158	6,970
F. J. Luckenbach	6	6.30	6	8.47	6	16.25	6	16.25	American	Luckenbach Line	446.0	66.0	25.6	Portland	Boston	General	7,000	8,508	6,179
Hawaiian	6	11.15	6	11.51	6	19.00	6	20.48	American	United American Lines	406.8	51.1	26.0	Seattle	Philadelphia	General	6,000	6,039	4,180
G. Harrison Smith	6	15.30	7	6.59	7	18.10	8	6.27	British	International Petroleum Co	550.6	73.0	33.6	Cruz Grande	New York	Iron ore	19,500	15,476	11,102
Crosshill	7	3.00	7	9.35	7	18.20	8	6.25	British	McBeth-Blackwood-Laurie	385.3	52.0	24.0	Ocean Island	Rotterdam	Phosphates	6,150	5,140	3,510
Huanchaco	7	10.10	7	10.50	7	18.42	7	20.00	British	Pacific Steam Navigation Co	390.6	50.0	24 0	Valparaiso	Europe	General	5,775	5,905	4,391
Eastern Trader	7	13.30	7	14.04	7	21.35	8	14.25	American	Tampa Interocean Steamship Co	445.0	58.0	29.0	Yokohama	New York	General	9,218	8,622	6,293
Ruapehu	7	6.00	7	14.55	7	22.03	7	23.15	British	New Zealand Shipping Co	457.3	58.0	26.0	Wellington	London	Cold storage, gen.	3,921	9,057	6,813
Waukegan	8	7.30	8	8.54	8	16.22	9	18.15	American	U. S. Government	395.5	55.0	12.0	Honolulu	Cristobal	Army stores	27	7,285	5,256
Ortega	8	5.30	8	10.00	8	16.48	8	20.15	British	Pacific Steam Navigation Co	465.3	57.0	27.6	Punta Arenas	Liverpool	General	5,664	8,345	4,998
Iriquois	8	8.00	8	10.47	8	18.45	9	8.20	British	Anglo-American Oil Co	476.3	60.0	27.3	San Francisco	Hull	Gasoline	3,319	9,380	6,376
Navahoe	8	8.00	8	11.53	8	23.43	9	9.18	British	Anglo-American Oil Co	450.2	58.3	24.5	San Pedro	Hull	Gas and oil	9,507	7,882	6,868
Argosy	8	11.45	8	13.24	8	20.50	8	20.50	American	Wessel & Duval	390.0	54.2	25.4	Iquique	Colon[s]	Nitrate	7,351	6,203	4,280
Conde de Churruca	8	20.20	9	8.05	9	16.00	....	....	Spanish	Sociedad Comercial de Orient	383.0	48.7	24.6	Los Angeles	Tampico	Oil	6,000	4,813	2,957
Benavon	9	9.10	9	9.59	9	17.15	9	19 52	British	Ben Line	378.0	46.0	24.0	Portland	Hampton R'ds	Wheat	5,411	4,205	3,044

[s] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 76, column 2.)

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.—Continued from page 75.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Sept. 3	Turrialba	United Fruit Co.	New Orleans via Habana.
Sept. 3	Pastores	United Fruit Co.	Port Limon.
Sept. 3	Crijnssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.
Sept. 4	Cartago	United Fruit Co.	New Orleans.
Sept. 5	Ulua	United Fruit Co.	New York via Habana.
Sept. 6	Carrillo	United Fruit Co.	New York via Kingston.
Sept. 7	Turrialba	United Fruit Co.	Bocas del Toro.
Sept. 7	Sixaola	United Fruit Co.	Colombian ports.
Sept. 8	Crijnssen	Royal Netherlands W. I. Mail	Port Limon.
Sept. 9	St. Mihiel[6]	U. S. Army	New York via San Juan.

[6] U. S. Army transport.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Sept. 3	Pastores	United Fruit Co.	New York via Habana.
Sept. 4	Turrialba	United Fruit Co.	Bocas del Toro.
Sept. 5	Crijnssen	Royal Netherlands W. I. Mail	Port Limon.
Sept. 6	Hannibal	U. S. Navy	High seas.
Sept. 6	Cartago	United Fruit Co.	New Orleans and wayports.
Sept. 6	Ulua	United Fruit Co.	Port Limon.
Sept. 7	Turrialba	United Fruit Co.	New Orleans.
Sept. 7	Carrillo	United Fruit Co.	Colombian ports.
Sept. 7	Sixaola	United Fruit Co.	New York via Kingston.
Sept. 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
Sept. 9	Crijnssen	Royal Netherlands W. I. Mail	Amsterdam and wayports.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
Sept. 4	Toyo Kisen Kaisha	Toyo Kisen Kaisha	Valparaiso.
Sept. 6	Rosana	Alberto Fait	Punta Arenas, C. R.

Date.	Vessel.	Line.	For—
Sept. 4	Seiyo Maru	Toyo Kisen Kaisha	Hongkong.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., September 20, 1922. No. 6.

Supplement No. 3 to Tariff No. 6.—Wharfage.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., September 5, 1922.

ITEM 14.—WHARFAGE.
(Effective September 5, 1922.)

6. The foregoing charges for wharfage will be made against vessels handling cargo or passengers either at Cristobal or Balboa as a terminus.

All other vessels docking at a wharf owned or controlled by The Panama Canal or the Panama Railroad Company for any other purpose than for handling cargo or passengers as a terminus will be charged one-half the foregoing rates, except, that no wharfage will be charged for vessels docking at the coaling plants solely for the purpose of securing coal, and that no wharfage will be charged vessels docked at repair wharves of the Mechanical Division solely for the purpose of securing repairs from The Panama Canal. If a vessel undergoing repairs at Mechanical Division repair wharf remains at such wharf for a longer period than is necessary for The Panama Canal to effect such repairs or discharges cargo or passengers or receives cargo, passengers, or supplies, the period for which wharfage shall be charged shall be determined by the Port Captain, after consultation with the Superintendent of the Mechanical Division.

When a vessel receives or discharges at the coaling plant, either at Cristobal or Balboa, one or more tons of cargo, or ten or more bags of mail, or three or more passengers, a charge for wharfage will be made at the regular rates provided in this tariff.

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Pilotage.

THE PANAMA CANAL, DIVISION OF OPERATION AND MAINTENANCE,
BALBOA HEIGHTS, C. Z., September 9, 1922.

MEMORANDUM FOR ALL STEAMSHIP AGENTS:

As there seems to be some confusion with regard to the application of pilotage regulations under certain conditions, to vessels in transit, the following explanation is considered necessary:

Pilotage charges will not be made against vessels which anchor in the regular anchorage grounds waiting transit, and while so anchored receive ordinary supplies.

In other words, such vessels are considered in the same category as vessels which transit and receive supplies while under way in the Canal prism.

The above does not apply to vessels which anchor and use the port facilities for repair or any other purpose except for supplies.

This memorandum is to be considered an interpretation of the regulations with regard to pilotage, and not as an addition to the regulations.

E. P. JESSOP,
Marine Superintendent.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 16, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kendal Castle	9	14.35	10	6.25	10	13.58	10	15.15	British	Lancashire Shipping Co	418.0	55.0	25.10	Philadelphia	Hongkong	General	8,400	6,773	4,973
Norway Maru	9	18.38	10	7.28	10	14.55	10	16.35	Japanese	Kokusai Kisen Kabushiki Kaisha	385.0	51.0	26.8	New York	Yokohama	General	6,401	5,926	4,397
Venezuela	9	17.18	10	12.50	10	19.16	11	1.40	American	Pacific Mail Steamship Co	395.0	48.6	23.3	Baltimore	San Francisco	General	2,800	6,033	4,353
South American	10	10.45	11	6.29	11	13.46	11	14.43	British	South American Line	251.0	43.0	17.10	New York	Callao	General, coal	2,191	2,444	1,593
Huallaga	5	21.42	11	10.35	11	16.49	11	19.31	Peruvian	Peruvian Line	360.0	14.7	19.6	Cristobal	Guayaquil	General	517	4,514	2,386
Montrose	11	3.40	11	10.58	11	18.59	11	20.00	British	Australind Steamship Co	365.0	47.0	19.0	Montreal	Sydney	General	3,782	4,680	3,441
Republic	11	13.05	11	13.15	11	20.15	11	21.52	American	Chile Steamship Co	325.0	49.0	17.0	New York	Valparaiso	General	1,023	4,393	3,006
Cuba	5	14.10	12	6.08	12	13.19	12	17.56	American	Pacific Mail Steamship Co	307.8	42.3	19.2	Cristobal	San Francisco	General	1,463	3,429	2,206
Comerie	11	11.03	12	7.25	12	14.46	12	15.51	British	Andrew Weir & Co	412.0	53.2	25.0	New York	Manila	General, case oil	6,453	7,186	5,335
Ansaldo San Giorgio III	11	20.25	12	8.55	12	15.38	13	2.10	Italian	Italian Line	378.0	51.5	18.0	Genoa	Valparaiso	General	908	5,907	4,310
Tudorstar	12	10.25	12	10.35	12	17.36	12	20.25	British	Blue Star Line	440.0	54.0	26.0	Cardiff	San Francisco	Coal	5,296	7,624	5,574
Magdala	12	7.50	12	12.04	12	18.38	12	19.38	Danish	East Asiatic Steamship Co	360.0	52.0	21.6	Alborg	Valparaiso	General	4,619	4,715	3,384
K. I. Luckenbach	12	16.05	13	6.14	13	14.24	13	15.15	American	Luckenbach Line	446.0	56.0	24.0	Boston	San Francisco	General	7,500	8,552	6,236
Delaware	12	18.15	13	7.15	13	14.56	13	17.50	British	Anglo-American Oil Co	345.0	41.2	21.3	Liverpool	San Francisco	Ballast		3,968	2,512
Santa Luisa	13	13.23	14	6.13	14	13.36	14	17.05	American	Grace Line	360.2	51.6	22.10	New York	Talcahuano	General	2,747	5,694	3,975
Sudbury	13	6.30	14	7.20	14	14.35	14	15.38	American	Shawmut Steamship Co	384.8	51.2	19.0	New Orleans	Tacoma	General	2,800	5,213	3,625
Santa Teela	14	6.05	14	11.00	14	18.23	14	20.42	American	Grace Line	298.6	40.0	19.6	New York	Salaverry	General	1,933	2,832	1,803
Lygnern	14	12.40	14	13.00	14	21.12	15	23.25	Swedish	Swedish Transatlantic Co	400.0	52.7	24.0	Newcastle	Los Angeles	General	7,230	6,280	4,567
Ruby[1]	8–19		14		14	12.58			American	E. J. Hooper				Cristobal	Gatun Lake	Ballast		2	1
Rio Gatun[1]	13		14		14	12.58			Panaman	A. R. Eckhart	38.0	9.0	3.0	Cristobal	Gatun Lake			8	8
Gothiestar	14	23.20	15	6.24	15	13.57	15	16.10	British	Blue Star Line	420.0	54.0	19.6	New York	Seattle	Ballast		7,521	5,852
Amalthus	15	3.57	15	7.30	15	14.49	15	16.01	British	Anglo-Saxon Petroleum Co.	412.0	53.8	17.6	Curacao	Los Angeles	Ballast		6,242	4,300
Eagle	15	6.42	15	9.03	15	16.08	15	17.29	American	Standard Transportation Co	410.0	56.0	21.9	New York	Seattle	General	4,971	8,243	6,266
Alvarado	14	7.10	15	9.39	15	16.46	15	20.50	British	MacAndrews & Co	303.0	43.0	16.6	New York	Guayaquil	General	358½	2,844	1,748
Port Auckland	15	6.10	15	10.45	15	17.35	15	18.55	British	Commonwealth and Dom. Line	480.8	63.0	23.6	Belfast	Sydney	General	1,749	10,862	8,192
President Pierce	15	16.09	16	6.24	16	14.11	16	16.22	American	Pacific Mail Steamship Co. (S.B.)	517.0	72.0	24.0	New York	San Francisco	Ballast		15,234	10,471
Waimana	16	12.28	16	7.30	16	15.09	16	16.04	British	Shaw, Savill & Albion Co	477.6	63.0	23.6	London	Dunedin	General	3,670	11,229	8,252
Petricola	16	6.30	16	9.10	16	15.56	16	21.50	British	Anglo-Saxon Petroleum Co	412.0	53.3	18.0	New Orleans	San Francisco	Ballast		6,331	4,422
Georgian	16	3.45	16	9.15	16	16.45	16	17.46	American	American-Hawaiian Line	386.8	52.2	23.4	Philadelphia	Portland	General	3,810	5,749	4,023

[1] Launch.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Steel Voyager	10	19.55	11	10.03	11	16.57	11	16.57	American	Norton, Lilly & Co.	395.3	55.0	26.4	Vancouver	Glasgow	General	6,931	7,285	5,256
Patuxent [2]			11	11.08	11	19.25			American	U. S. Navy	148.0			Balboa	Cristobal				
Naos [1]			11		11				American	R. W. Bain	22.0			Balboa	Pedro Miguel				
F. H. Hillman	12	2.30	12	7.45	12	15.47	12	15.47	American	Standard Oil Co.	500.0	68.2	28.10	San Francisco	Philadelphia	Benzine	14,533	11,225	7,913
Ecuador	12	2.36	12	12.53	12	19.53	13	10.47	American	Pacific Mail Steamship Co.	380.0	48.7	25.0	San Francisco	New York	General	3,146	5,926	4,178
Knoxville City	13	0.15	13	7.38	13	14.58	13	14.58	American	Isthmian Steamship Lines	424.2	56.2	25.6	Tacoma	Baltimore	General	6,300	7,611	5,450
David Lloyd George	13	8.30	13	9.37	13	17.55	13	19.50	British	William & Morley	370.15	51.45	23.6	San Francisco	Leith	Barley	6,533	5,063	3,615
Andrea F. Luckenbach	13	9.00	13	10.51	13	18.16	13	18.16	American	Luckenbach Line	496.0	68.2	28.0	San Francisco	Philadelphia	General, lumber	12,000	11,487	8,762
Dakotan	13	10.35	13	11.55	13	18.37	13	18.37	American	United American Lines	407.7	53.7	25.0	Bellingham	New York	General		7,156	5,058
Plum Branch	13	11.30	13	13.08	13	21.52	13	23.59	British	F. & W. Ritson	398.5	53.8	22.6	Taltal	Liverpool	General	5,955	5,761	3,881
Nyanza	13	13.15	13	14.25	13	23.20	14	10.25	American	Moore & McCormick	407.7	55.2	25.6	Tacoma	New York	Copper, lumber	6,500	6,240	4,429
Hattie Luckenbach	13	8.00	13	14.30	13	24.45	13	23.45	American	Luckenbach Line	331.5	47.0	25.0	Portland	New Orleans	General, lumber	4,159	4,808	3,768
Sydic	14	1.00	14	8.03	14	17.05	15	3.05	Swedish	Transatlantic Co.	399.0	54.0	21.0	Suva, Fiji	Falmouth	Copper	5,125	5,420	4,035
Atlantic Sun	14	7.00	14	9.43	14	18.11	14	19.32	American	Sun Co.	429.3	59.2	26.8	Los Angeles	Philadelphia	Oil	1,000	7,898	5,593
Manavi	14	3.15	14	10.58	14	19.40			British	Pacific Steam Navigation Co.	216.0	35.1	15.3	Guayaquil	Cristobal	General	855	1,357	884
Bjornstjerne Bjornson	14	14.50	15	6.52	15	14.35	15	15.40	Norwegian	Olaf Orvic	410.0	54.0	21.6	Victoria, B. C.	New York	Lumber, shingles	4,800	6,304	4,752
Leise Maersk	15	2.00	15	7.47	15	15.03	15	15.03	Danish	A. P. Moller	302.2	44.2	22.3	Iquique	Alexandria	Nitrate	4,150	3,212	2,166
Siberian Prince	15	6.00	15	8.59	15	17.00	15	18.22	British	Furniss Prince Line	423.5	56.0	25.0	Seattle	Glasgow	General	7,394	6,267	4,565
Santa Rosa	15	7.54	15	10.02	15	17.03	15	17.03	American	Grace Line	404.6	54.0	24.2	Port Angeles	New York	General	5,606	6,754	4,780
Benjamin Brewster	16	.05	16	7.43	16	15.13	16	15.13	American	International Petroleum Co.	411.6	53.2	24.6	Talara	Habana	Oil	7,300	6,177	4,244
Imperial	16	7.30	16	9.05	16	16.03			Chilean	South American Line	336.8	41.2	20.6	Valparaiso	Cristobal	General	366	3,296	2,156
Laura C. Hall	15	18.00	16	10.15	16	16.37			British	Pacific Metals Corp.	81.0	25.6	10.0	Buenaventura	Cristobal	Coffee [3]	67½	132	72
Mantaro	16	6.30	16	13.00	16	20.00			Peruvian	Peruvian Line	367.3	46.0	17.3	Ilo	Cristobal	General	1,207	4,838	2,959

[2] And barge. [3] Coffee, gold, and platinum.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Sept. 10	Atenas	United Fruit Co.	New Orleans via Habana.
Sept. 10	Ulua	United Fruit Co.	Port Limon, C. R.
Sept. 10	Meltonian	Leyland Line	Liverpool.
Sept. 12	Amassia	Hamburg-American Line	Hamburg and wayports.
Sept. 12	Toloa	United Fruit Co.	New York via Habana.
Sept. 12	Heredia	United Fruit Co.	New Orleans via Port Limon.
Sept. 13	Tivives	United Fruit Co.	New York via Kingston.
Sept. 13	Carrillo	United Fruit Co.	Colombian ports.

[4] U. S. Army transport.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Sept. 10	Ulua	United Fruit Co.	New York via Habana.
Sept. 10	Meltonian	Leyland Line	New Orleans via Jamaica.
Sept. 11	Atenas	United Fruit Co.	Bocas del Toro.
Sept. 12	St. Mihiel [4]	U. S. Army	New York.
Sept. 12	Amassia	Hamburg-American Line	Port Limon.
Sept. 13	Toloa	United Fruit Co.	Port Limon.
Sept. 14	Heredia	United Fruit Co.	New Orleans and wayports
Sept. 14	Tivives	United Fruit Co.	Colombian ports.
Sept. 14	Carrillo	United Fruit Co.	New York via Kingston.

(Continued on page 86, column 2.)

Telegraphic Communication.

Telegraphic communication between the Isthmus and the rest of the world is handled by the All America Cables, Inc., the Naval radio system, and the radio system of the United Fruit Company.

The Naval radio system is used for Government communication with the United States; and for messages to or from ships, on both Government and commercial business. The only land areas to which it handles commercial messages are those sections of the Republic of Panama contiguous with the outlying radio stations at La Palma and Puerto Obaldia, stations in Colombia reached through the radio station at Cartagena, the radio stations in the Caribbean area operated by the United Fruit Company, and the government stations at Bluefields, Nicaragua. and Belize, British Honduras.

With the rest of the world, away from the Isthmus, the means of telegraphic communication are the system of the All America Cables and its connections, and the United Fruit Company's radio system.

The Naval Radio will also accept messages in connection with the United Fruit Company's stations at Bocas del Toro, R. P., Port Limon, Costa Rica; as well as messages for Bluefields, Nicaragua, and Belize, (British Government Station).

LAND TELEGRAPH ON THE ISTHMUS.

For both the Naval radio service and the cable lines, messages may be filed in any office of the Panama Railroad's railway telegraphic system or of the National Telegraphs of the Republic of Panama. When this is done the local telegraph service collects a charge for local transmission which is in addition to the regular radio or cable rates as levied on messages filed at the radio stations or cable offices. This charge is at the rate of 2 cents a word for the first 10 words and 1 cent a word for additional words above 10, the minimum being 20 cents for any message so handled. If a message be filed through the Panama Railroad or Panama National telegraph offices, their transmission charges must be reckoned as in addition to the radio and cable rates as given below.

NAVAL RADIO RATES.

The rates on commercial business sent or received through the Naval radio stations (either Balboa or Colon) are as follows:

Point.	Isthmian radio station charge.	Charge of receiving radio station.	Total for radio.	Total for messages of 5, 10, 15, and 20 words, if filed through Panama Railroad or Panama National telegraph office.			
				5 words.	*10 words.*	*15 words.*	*20 words.*
Government ships	$0 06	$0 04	$0 10	$0 70	$1 20	$1 75	$2.30
Ships other than U. S. Government including Shipping Board and Panama Railroad ships	06	08	.14	.80	1 40	2 05	2 70
United Fruit Company's radio stations	06	13	.19	1 15	2 10	3 10	4 10
Cartagena, Colombia	.10	.10	.20	1 20	2 20	3 25	4 30
La Palma and Puerto Obaldia, R. P.	.02	.02	.04	40	.60	.85	1 10

ALL AMERICA CABLE RATES.

The rates in effect at present for transmission by the cables of the All America Cables, Inc., are as follows. In general, the rates from the

points named to the Canal Zone are the same as the rates from the Canal Zone to the points:

Rate to—	Per word.
New York City	$0.30
Galveston City (via Galveston)	.35
Louisiana and Texas (via Galveston)	.35
Alabama	.36
Arizona	.42
Arkansas	.39
Alaska	.67
Alberta (Canada)	.42
Ascension Island (Atlantic Ocean)	1.14
Australia	1.06
Austria	.77
Argentina:	
Buenos Aires, Rosario, Mendoza	.55
Other places	.63
Aruba	1.45
Azores (Atlantic Ocean) (*via* New York)	.65
Belgium	.65
Bermuda (*via* New York)	.66
British Columbia (Canada)	.42
Bulgaria and eastern Roumelia	.83
Bolivia:	
Corcoro and La Paz	.39
Other places	.44
Riberalta and Trinidad	.64
Brazil:	
Rio Janeiro and Santos	.60
Other places (except Amazon River and Acre district)	.60
British West Indies:	
Antigua, Barbados, British Guiana, Dominica, Grenada, Jamaica, Montserrat, St. Christopher, St. Kitts, St. Lucia, St. Vincent, Trinidad	.59
Tobago	.65
Chile:	
Iquique, Antofagasta, Santiago, Valparaiso, Los Andes	.30
Other places	.33
Cuba:	
Santiago and Fisherman's Point	.25
Other places	.30
Costa Rica:	
Limon and San Jose	.15
All other places	.20
Colombia:	
Buenaventura and Cartagena	.20
Other places	.35
Curacao	1.33
California	.42
Colorado	.39
Connecticut	.38
Ceylon (Indian Ocean)	1.06
China:	
Via Pacific	1.40
Via Atlantic	1.63
Cochin China (French)	1.39
Denmark	.75
Delaware	.33
District of Columbia	.33
	.16½
Dominican Republic, *via* wireless	.47
Dominican Republic, via Cuba, all places	.85
Dutch Guiana	1.47
Egypt (Alexandria)	.90
Esthonia	.83
Ecuador:	
Guayaquil	.45
Santa Elena, Esmeraldas	.40
Other places	.50
Finland	.80
Formosa Island	1.48
France	.65
Florida	.39
French Guiana	1.37
Germany	.70
Gibraltar	.83
Great Britain	.65
Greece and Island	.77
Guam Island	1.17
Georgia	.36

Rate to—	Per word.
Guatemala:	
San Jose	$0.20
Other places	.25
Guadeloupe *via* Haiti	.95
Via W. I and P	1.02
Hawaiian Islands (Honolulu)	.77
Holland	.65
Hungary	.77
Honduras (all places)	.25
Honduras (British), Belize	.42
Haiti:	
Cape Haitien, Mole, St. Nicholas, Port-au-Prince	.65
Other places	.70
Via F. P. and wireless	.50
Iceland	.75
India	1.06
Italy	.71
Idaho	.42
Illinois	.36
Indiana	.36
Iowa	.39
Indian Territory	.39
Japan (normal route)	1.48
Via Atlantic	1.71
Via San Francisco and wireless	1.27
Jap or Yap (Caroline Island)	1.48
Kansas	.39
Kentucky	.36
Luxemburg	.70
Louisiana (*via* New York)	.39
Les Saintes	.95
Madagascar	1.30
Malta	.75
Manitoba (Canada)	.42
Mauritius Island	1.14
Mesopotamia	1.26
Morocco (Tangier)	.76
Maine	.33
Maryland	.33
Massachusetts	.33
Michigan	.36
Minnesota	.39
Mississippi	.36
Missouri	.39
Montana	.39
Mexico:	
Salina Cruz, Vera Cruz, Mexico City, Puerto Mexico	.30
All other places	.33
Marie Galante	.95
Martinique	.95
Nassau, Bahama Island	.65
New Brunswick, Canada	.36
Newfoundland	.44
New Zealand	.98
Norway	.75
Nebraska	.39
Nevada	.42
New Hampshire	.33
New Jersey	.33
New Mexico	.39
New York (State)	.33
North Carolina	.36
North Dakota	.39
Nicaragua:	
San Juan del Sur	.15
All other places	.20
Nova Scotia (Canada)	.36
Ontario (Canada)	.36
Ohio	.36
Oklahoma	.39
Oregon	.42
Persia	1.30
Philippine Islands (Manila)	1.32
Other islands	1.50
Poland	.77
Portugal	.79
Pennsylvania	.33

Rate to—	Per word.
Peru:	
Paita, Callao, Lima	$0.40
Other places	.45
Iquitos *via* wireless	.50
Porto Rico:	
Ponce, San Juan	.30
Other places	.33
All Porto Rico *via* F. P. and wireless	.45
Paraguay (all places)	.63
Quebec (Canada)	.36
Roumania	.81
Russia	.86
Venezuela, *via* Cuba	1.15
Via Colombia	.35
Via wireless	.84
Washington (State)	.42
West Virginia	.36
Wisconsin	.36
Wyoming	.39
Rhode Island	.33
Servia	.80
Spain:	
Via Havre	.78
Direct route	.80
Sweden	$0.78
Switzerland	.70
Syria	.96
South Carolina	.36
South Dakota	.39
Salvador, La Libertad	.20
All other places	.25
St. Croix and St. Thomas	.67
Via F. P and wireless	.45
Tasmania	1.06
Turkey in Europe	.76
Turkey in Asia	.85
Tennessee	.36
Texas (*via* New York)	.39
Utah	.42
Uruguay, Montevideo	.55
Other places	.62
Falkland Island (Port Stanley) *via* wireless	.85
Fox Bay, *via* wireless	.97
Vermont	.33
Virginia	.36

DEFERRED AND WEEK-END LETTER RATES.

In connection with the rates quoted above for the All America Cables, the manager on the Isthmus has furnished the following regarding rates on deferred messages and week-end letters:

There is at present in force from the Isthmus of Panama, a deferred cable rate which is just half of the ordinary commercial cable rate. This rate is in force to practically all parts of the world including Central and South America. However, in the case of the latter the deferred messages will only be accepted at that rate when the message is destined to an office of this company. Messages destined for interior points where we have no office the full commercial rate is applied. Full paid commercial traffic naturally has precedence over deferred rate traffic. The latter, however, in no instance can be delayed for more than 24 hours, after which time it takes equal turn with full paid commercial traffic.

We give, from the Isthmus of Panama, a very excellent deferred service. Our facilities are such that we are able to give this traffic practically as good a turn as commercial traffic. That, however, only applies in so far as the Isthmus of Panama is concerned.

The week-end letter rate can be used only on messages forwarded over the week-end. Such messages, however, may be filed at any time during the week but are not transmitted until Saturday, and are prepared for delivery with the opening of business Monday morning. Such messages can only be sent to offices of this company, registered code addresses being permitted at the sender's risk. We will also accept these messages for points beyond our lines providing postal address is entirely clear to enable us to mail from our nearest office.

The rates for week-end letters are $3.00 for 25 words, 25 words being the minimum, and an additional charge of 12 cents per word for each additional word.

The messages must be written in plain language of the country of origin or destination, code not being admissible. Numbers, except in addresses, must be written in words. The use of more than one language in the same message is not permitted.

Gas Lines Laid in New Cristobal.

Gas mains from the plant of the Panama-Colon Gas Company in the city of Colon have been extended into the area known as New Cristobal, occupied by employees of The Panama Canal and the Panama Railroad, and gas is now being sold to a number of families. Approximately 750 feet of 8-inch and 6,700 feet of 4-inch pipe were laid, and house lines were laid to each house, so that no more digging would be necessary.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Three Weeks Ending September 16, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Acajutla	Pacific Steam Navigation Co	August 26	August 27	8	
Hermes	Royal Netherlands W. I. Mail	August 28	August 28	78	
Laura C. Hall	Pacific Metals Transp. Co., Ltd	August 30	August 30		46
Pyro	U. S. Navy	August 31	September 2	56	
Santa Ana	Pacific Mail Steamship Co	September 1	September 2	65	
Palena	South American Line	September 3	September 4	79	39
Seiyo Maru	Toyo Kisen Kaisha	September 4	September 4	15	93
Cuba	Pacific Mail Steamship Co	September 4	September 5	28	
Rosana	A. Fait	September 6	September 9	250	
Acajutla	Pacific Steam Navigation Co	September 7	September 7		38
Delft	Royal Netherlands W. I. Mail	September 8	September 8	5	
Venezuela	Pacific Mail Steamship Co	September 10	September 10	46	6
Ecuador	Pacific Mail Steamship Co	September 12	September 12	62	
Cuba	Pacific Mail Steamship Co	September 12	September 12		97
Ansaldo San Giorgio III	Societa Nazionale di Navigazione	September 12	September 12	35	
Trophon	Anglo-Saxon Petroleum Co	September 14		5,339	
Manavi	Pacific Steam Navigation Co	September 14	September 14	24	
Alvarado	Pacific Steam Navigation Co	September 15	September 15		23
Laura C. Hall	Pacific Metals Transportation Co	September 15	September 16	7	
Delrosa	General Steamship Corp	September 16	September 16	12	

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended September 16:

Steamship *Trophon*, overhaul damaged and worn air pump connected by walking beam to main engine.

PREVIOUSLY REPORTED.

Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck houses; U. S. submarine *O-16*, general running repairs and alterations; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge; repairs to damaged rudder.

The following vessels were at the Cristobal shops for repairs during the week ended September 18:

Steamships *Roman Prince*, repair indicator pipe and valves; manufacture new hatch covers for holds Nos. 4, 5, and 6, etc.; *Manavi*, repair damage to ship's side, starboard; manufacture 4 hatch tarpaulins, fire bars, cap for sounding machine tube and taper pins for shackles; repair piping, chisels, screening in doors, No. 1 upper deck hatch, locks, saloon chair, lifeboat and bulwark stanchion; furnish and install 2 chafing plates on after derricks; clean and paint cook's room, etc.; *Imperial*, repair anchor windlass; motor schooner *Laura C. Hall*, dock, clean, and paint; renew planks and calk to stop leak; repair bilge pump, winch, manifold pipe, and bearing on launch, etc.; steamships *Kajan Maru*, install fuel oil filling lines to tanks and oil burning system; *Parismina*, repair piping, superheater, and ice machine; *Cristobal*, machine and install new bull ring for port L. P. cylinder; turn down shoulder on piston rod and manufacture new nut for same; manufacture 12 valve disks; repair oil pump arm, galley stove, and piping; *Colon*, electric weld boiler; repair sill in butcher's shop and furnish handle for stove; *Heredia*, manufacture eyebolts and key; *Sydic*, repair main steam pipe.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, August, 1922.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.						Far East.					Australasia.				Hawaii.	Grand totals.	Per cent of total cargo.
	Chile.	Colombia.	Peru.	Ecuador.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Canada.	West coast of Central America.	West coast of Mexico.	North America.[1]	Total, North America.	China.	Japan.	Philippines.	Far East.[1]	Total, Far East.	Australia.	New Zealand.	Australasia.[1]	Total, Australasia.			
North America:																								
United States—																								
North Atlantic ports	6,277	2,894	4,767	281	5,697	19,916	132,882	77	1,120	90		134,169	45,440	24,435	1,494	4,000	75,369	6,548	5,887	14,444	26,879	3,147	259,480	46.6
South Atlantic ports					200	200	3,050					3,050	230	2,243			2,473	544		207	751		6,474	1.2
Gulf ports			5,677	80	2,573	8,330	30,837					30,837	42,335	19,332	283		61,950					750	101,867	18.3
Total, United States	6,277	2,894	10,444	361	8,470	28,446	166,769	77	1,120	90		168,056	88,005	46,010	1,777	4,000	139,792	7,092	5,887	14,651	27,630	3,897	367,821	66.1
East coast of Mexico	42,800					42,800																	42,800	7.7
Cristobal, C. Z.	56	472	332	238	2,705	3,803	254		831		1,675	2,760											6,563	1.2
East coast of Canada							3,400					3,400								6,828	6,828		10,228	1.8
Total, North America	49,133	3,366	10,776	599	11,175	75,049	170,423	77	1,951	90	1,675	174,216	88,005	46,010	1,777	4,000	139,792	7,092	5,887	21,479	34,458	3,897	427,412	76.8
Europe:																								
Belgium					97	97	7,636	54				7,690											7,787	1.4
British Isles	21,481		6,828	375	4,809	33,493	10,138	700				10,838							30,857	4,879	35,736		80,067	14.4
France					4	4																	4	
Germany	1,025					1,025	1,478		1,210			2,688											3,713	0.7
Holland	715					715	405	23				428											1,143	0.2
Sweden							1,233					1,233											1,233	0.2
Europe[1]	2,230		911	56	5,171	8,368	15,208	29				15,237											23,605	4.2
Total, Europe	25,451		7,739	431	10,081	43,702	36,098	806	1,210			38,114							30,857	4,879	35,736		117,552	21.1
East coast of South America	2,700	660				3,360	8,408					8,408		29			29						11,797	2.1
Grand totals	77,284	4,026	18,515	1,030	21,256	122,111	214,929	883	3,161	90	1,675	220,738	88,005	46,039	1,777	4,000	139,821	7,092	36,744	26,358	70,194	3,897	556,761	100.0
Per cent of total cargo:																								
August, 1922	13.9	0.7	3.3	0.2	3.8	21.9	38.7	0.2	0.5		0.3	39.7	15.8	8.3	0.3	0.7	25.1	1.3	6.6	4.7	12.6	0.7	100.0	
July, 1922	9.1		1.3	0.7	3.3	14.4	37.4	2.3	0.7		2.6	43.0	8.5	14.0	0.9	9.0	32.4	5.7	1.6	2.3	9.6	0.6		
August, 1921	5.7	0.5	0.7	0.2	10.6	17.7	18.8	2.4	0.4		8.8	30.4	6.2	13.6	1.3	15.6	36.7	6.3	2.6	6.0	14.9	0.3		

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

Distribution of Cargo passing through the Panama Canal from Pacific to Atlantic, August, 1922.
(Figures represent tons of 2,240 pounds)

From—	North America. United States. North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.	East Coast of Canada.	West Indies.	Cristobal, C. Z.[1]	Total, North America.	Europe. Belgium.	British Isles.	Denmark.	France.	Germany.	Spain.	Holland.	Europe.[1]	Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																				
Chile	76,785	14,711	8,647	100,143	.....	1,910	192	102,245	1,400	21,857	....	6,177	2,684	6,300	10,113	6,694	55,225	....	157,470	25.9
Colombia	773	.....	.....	773	.....	.....	2,286	3,059	.....	.....	....	.....	.....	.....	.....	.....	.....	....	3,059	0.5
Ecuador	2,434	.....	.....	2,434	.....	.....	1,262	3,696	33	20	....	983	46	.....	45	.....	1,127	....	4,823	0.8
Peru	21,109	.....	.....	21,109	.....	.....	1,365	22,474	.....	15,955	....	6	623	.....	.....	.....	16,584	....	39,058	6.4
West coast of South America[1]	188	.....	.....	188	.....	.....	399	587	.....	.....	....	.....	500	.....	.....	.....	500	....	1,087	0.2
Total, South America	101,289	14,711	8,647	124,647	.....	1,910	5,504	132,061	1,433	37,832	....	7,166	3,853	6,300	10,158	6,694	73,436	....	205,497	33.8
North America:																				
West coast of United States	156,778	4,590	2,071	163,439	11,253	4,828	508	180,028	9,070	57,236	252	4,781	4,603	.....	651	27,896	104,489	2,211	286,728	47.1
Central America	12	.....	.....	12	.....	.....	1,146	1,158	.....	.....	....	1,163	3,326	.....	.....	.....	4,489	....	5,647	0.9
West coast of Canada	7,794	.....	.....	7,794	.....	267	.....	8,061	.....	7,820	....	507	100	.....	.....	1,092	9,519	....	17,580	2.9
West coast of North America[1]	2,975	.....	.....	2,975	.....	.....	.....	2,975	.....	2,698	....	232	.....	.....	.....	.....	2,930	....	5,905	1.0
Total, North America	167,559	4,590	2,071	174,220	11,253	5,095	1,654	192,222	9,070	67,754	252	6,683	8,029	.....	651	28,988	121,427	2,211	315,860	51.9
Asia:																				
China	9,750	.....	.....	9,750	.....	1,685	.....	11,435	.....	.....	....	.....	.....	.....	.....	.....	.....	....	11,435	1.9
Japan	6,028	.....	.....	6,028	.....	.....	.....	6,028	.....	.....	....	.....	.....	.....	.....	8,050	8,050	....	14,078	2.3
Philippines	16,871	.....	1,000	17,871	.....	.....	.....	17,871	.....	.....	....	.....	.....	.....	.....	.....	.....	....	17,871	2.9
Far East[1]	3,374	.....	.....	3,374	.....	.....	.....	3,374	.....	.....	....	.....	.....	.....	.....	.....	.....	....	3,374	0.6
Total, Asia	36,023	.....	1,000	37,023	.....	1,685	.....	38,708	.....	.....	....	.....	.....	.....	.....	8,050	8,050	....	46,758	7.7
Australasia:																				
Australia	1,440	.....	.....	1,440	.....	.....	25	1,465	225	2,148	....	.....	5,411	.....	.....	.....	7,784	....	9,249	1.5
New Zealand	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,600	....	.....	.....	.....	.....	.....	4,600	....	4,600	0.7
Australasia[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,616	....	.....	.....	.....	20	16,589	21,225	....	21,225	3.5
Total, Australasia	1,440	.....	.....	1,440	.....	.....	25	1,465	225	11,364	....	.....	5,411	.....	20	16,589	33,609	....	35,074	5.7
Hawaii	6,000	.....	.....	6,000	.....	.....	.....	6,000	.....	.....	....	.....	.....	.....	.....	.....	.....	....	6,000	1.0
Grand totals	312,311	19,301	11,718	343,330	11,253	8,690	7,183	370,456	10,728	116,950	252	13,849	17,293	6,300	10,829	60,321	236,522	2,211	609,189	100.0
Per cent of total cargo:																				
August, 1922	51.2	3.2	1.9	56.3	1.9	1.4	1.2	60.8	1.8	19.2	....	2.3	2.8	1.0	1.8	9.9	38.8	0.4	100.00	.....
July, 1922	46.0	.....	4.0	50.0	0.1	0.4	1.4	51.9	2.2	22.3	0.9	0.3	1.4	1.6	4.4	13.7	46.8	0.3	.....	.....
August, 1921	33.6	2.7	3.3	39.6	0.3	0.8	1.6	43.8	0.9	39.4	0.6	0.1	2.4	.....	1.5	11.3	56.1	0.1	.....	.....

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

Official Circulars.

Acting Governor.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., September 16, 1922.

To all concerned—Effective September 17, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., Engineer of Maintenance, will be Acting Governor.

JAY J. MORROW,
Governor.

Duties of President, Panama Railroad Company.

PANAMA RAILROAD COMPANY,
OFFICE OF THE PRESIDENT,
BALBOA HEIGHTS, C. Z., September 16, 1922.

To all concerned—Effective September 17, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., Second Vice President, will perform such duties of the President as relate to the operations of the company on the Isthmus.

JAY J. MORROW,
President, Panama Railroad Company.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for $1.70 per barrel of 42 gallons.

Diesel oil is sold at $3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 79.

PORT OF CRISTOBAL—continued.

*ARRIVALS.				*DEPARTURES			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
Sept. 13	Cristobal	Panama Railroad Steamship Line.	Norfolk.	Sept. 14	Atenas	United Fruit Co	New Orleans.
Sept. 14	Colon	Panama Railroad Steamship Line.	New York via Haiti.	Sept. 15	Antonio Lopez	Spanish Line	Barcelonia via wayports.
Sept. 14	Atenas	United Fruit Co	Bocas del Toro.				
Sept. 14	Antonio Lopez	Spanish Line	Barcelona via wayports.				

PORT OF BALBOA.

Sept. 14	Guardian	All-America Cables Co	Callao.	Sept. 16	Delrose	Federal Steamship Co	San Francisco.
Sept. 14	Thropton	Steel Oil Co	Los Angeles.				
Sept. 16	Delrose	Federal Steamship Co	Valparaiso.				

*Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., September 27, 1922. No. 7.

Long Tow Through Canal.

The British tanker *Iroquois* with the barge *Navahoe* in tow, passed through the Canal westbound on June 30, 1922, bound from Southampton to San Diego, both vessels being in ballast. On September 8 they made the return trip through the Canal en route to England, laden with gasoline and Diesel oil. The distance from San Pedro to Southampton is approximately 7,000 miles, making a total of 14,000 miles for the round voyage.

The barge is a larger carrier than the tanker, the *Navahoe* carrying 9,507 tons of gasoline and Diesel oil and the *Iroquois* 8,319 tons of gasoline on the return voyage.

The "Andrea F. Luckenbach" Carries Large Cargo.

The steamship *Andrea F. Luckenbach* passed through the Canal on September 13, carrying 4,000,000 feet of lumber and 6,000 tons of canned salmon, raisins, and general merchandise laden at Californian ports and destined for Philadelphia and New York. In weight tonnage, the cargo was slightly under 10,000 tons deadweight, but by measurement her load totaled 19,000 tons, which is probably a record cargo between United States coastwise ports.

The *Andrea F. Luckenbach* is 496 feet long, with a beam of 68.2 feet, and had a draft of 28 feet at the time of transiting the Canal.

Record Lumber Shipments in August.

Lumber shipments through the Panama Canal for the month of August, 1922, exceeded those of any previous month in the history of Canal traffic, a total of 145,213 tons being shown on the various cargo declarations of vessels transiting the Canal.

Of the total shipments, 2,373 tons originated in Australasia, 8,050 tons in the Far East, and the remaining came from the west coast of Canada and the United States. Of the above, 109,048 tons were destined for the Atlantic and Gulf ports of the United States, 19,300 tons to Europe, 11,253 tons to the east coast of Canada, 2,000 tons to Argentina, and 3,612 tons to the West Indies.

Official Publications of Interest to Shipping.

The Hydrographic Office in the Terminal Building, Cristobal, is in receipt of the following publications of the Department of Commerce or the Navy Department of the United States of interest to shipping, and offers them for sale at list prices.

Navigation Laws of the United States; Merchant Vessels of the United States; Stowage of Ships' Cargoes; List of American Commercial and Government Radio Stations; Nautical Almanac.

CANAL WORK IN AUGUST.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of August, 1922:

BALBOA HEIGHTS, C. Z., September 25, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of August, 1922:

CANAL TRAFFIC.

Traffic through the Canal during August was slightly under that for the preceding month but well above the monthly average for the past year. In point of tonnage the eastbound and westbound traffic through the Canal for July, 1922, was practically equal, but for August the westbound traffic was the greater by 25 per cent.

As compared with the corresponding month of a year ago westbound traffic through the Canal showed a gain of more than 75 per cent in cargo tonnage, totaling 556,761 tons for August, 1922, as compared with 317,970 tons for August, 1921.

The amount of cargo tonnage routed to and from the west coast of South America was more than double the cargo tonnage similarly routed during August, 1921. Nitrate shipments from South America were greater than for any month since April, 1921.

Shipments of wheat from the west coast of North America were surprisingly small, the total wheat shipments through the Canal during the past month from the west coast of the United States and Canada being but 17,754 tons, as compared with 132,840 tons for the preceding month, and 76,081 tons for the corresponding month of last year.

Lumber shipments were the highest in the history of Canal traffic, a total of 145,213 tons passing from the Pacific to the Atlantic of which all but 10,423 tons originated on the west coast of the United States.

The total number of vessels and craft of all kinds transiting the Canal during the month of August as compared with the preceding month and with the corresponding month of last year, was as follows:

	August, 1922.	July, 1922.	August, 1921.
Commercial vessels	257	251	236
Noncommercial vessels	25	14	31
Launches etc. (under 10 tons measurement)	8	2	7
Total vessels and craft through Canal	290	267	274

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in August, as follows:

	North-bound.	South-bound.	Total.
Gatun	12	9	21
Pedro Miguel	20	11	31
Miraflores	18	14	32
Totals	50	34	84

COMMERCIAL TRAFFIC.[1]

Comparative Traffic Statistics.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of August, 1922, with that of the preceding month and the corresponding month of last year along the lines indicated at the head of the various tables.

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

TONNAGE, TOLLS, AND CARGO CARRIED.

	August, 1922.	July, 1922.	August, 1921.	Average month for past year.
United States equivalent net tonnage	857,925	897,770	792,442	792,702
Panama Canal net tonnage	1,084,133	1,127,871	965,276	987,798
Registered gross tonnage	1,358,917	1,419,754	1,219,817	1,241,428
Registered net tonnage	853,212	900,399	780,945	789,459
Tolls	$1,055,336.75	$1,094,127.42	$955,380.78	$965,617.72
Tons of cargo	1,165,950	1,211,100	839,273	976,142

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	August, 1922.	July, 1922.	August, 1921.
United States equivalent net tonnage	3,391	3,577	3,358
Panama Canal net tonnage	4,285	4,493	4,090
Registered gross tonnage	5,371	5,656	5,169
Registered net tonnage	3,372	3,587	3,309
Tolls	$4,106.37	$4,359.07	$4,048.22
Tons of cargo (including vessels in ballast)	4,701	4,825	3,556
Tons of cargo (laden vessels only)	5,047	5,288	4,217

UNITED STATES COASTWISE TONNAGE.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
August	19	86,278	$81,734.17	55,387	23	110,899	$118,316 25	129,792
September	25	134,239	136,340.58	72,620	15	88,011	83,011.64	104,642
October	22	113,712	116,752.05	86,442	19	96,731	101,710.00	105,951
November	24	136,349	131,558.19	91,067	17	86,958	88,339.80	101,460
December	20	104,152	106,549.80	73,967	23	116,482	117,600.08	105,134
1922.								
January	28	138,928	141,404.35	119,413	20	108,921	111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150

UNITED STATES SHIPPING BOARD VESSELS.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
August	15	76,570	$71,607.58	46,542	18	79,390	$77,353.39	91,897
September	10	53,816	51,785.48	38,368	16	84,433	82,566.25	109,610
October	10	55,300	53,475.00	34,593	14	61,980	62,318.75	79,129
November	12	74,635	71,525.74	44,975	5	29,949	29,127.50	28,865
December	9	47,604	46,318.75	44,101	6	32,957	32,803.75	28,784
1922.								
January	6	34,546	34,756.25	23,575	7	31,550	30,646.95	23,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage.

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
August	257,600	175,768	15,527	21,202	17,122	487,219
September	277,984	160,534	10,889	23,038	58,189	530,634
October	262,440	226,431	27,828	20,516	33,960	571,175
November	301,680	192,594	14,997	18,444	11,302	539,017
December	312,225	198,287	21,113	15,601	28,443	575,669
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,223	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
Average month for past year	325,159	162,882	21,758	19,288	29,246	558,333

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
August	164,577	106,886	94,486	70,551	50,719	487,219
September	268,758	90,105	80,242	53,309	38,220	530,634
October	280,483	78,532	100,332	69,057	42,771	571,175
November	216,092	107,721	95,216	78,493	41,495	539,017
December	188,615	115,980	136,940	84,391	49,743	575,669
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
Average month for past year	203,993	117,527	116,641	75,268	44,903	558,333

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
August	229,629	110,248	20,628	68,661	48,894	478,067
September	218,453	84,212	14,762	30,814	46,262	394,503
October	252,645	124,560	37,720	41,436	42,018	498,379
November	189,942	126,381	23,556	6,581	56,934	403,394
December	195,969	135,952	28,194	39,616	41,844	441,575
1922.						
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
Average month for past year	186,491	120,777	28,866	37,992	55,339	429,465

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
August	231,830	194,279	27,256	22,022	2,670	478,057
September	204,820	140,555	26,478	17,114	5,536	394,503
October	259,613	170,189	18,222	30,955	19,400	498,379
November	196,974	164,345	20,446	16,760	4,869	403,394
December	191,277	192,575	25,550	21,739	10,434	441,575

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC—continued.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1922.						
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	11,851	472,271
Average month for past year	174,485	202,950	20,838	19,929	11,263	429,465

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of August, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	.....	6.1	1.5	.....
East coast of United States	33.0	.....	13.9	.....
East coast of Mexico	.....	52.6	27.7	.....
Cristobal, C. Z.	.....	3.8	8.7	.....
West coast of United States	13.5	.....	(1)	(1)
West coast of South America	30.1	.....	23.8	.....
Australasia	15.9	.....	.....	14.9
Far East	.....	0.4	84.4	.....

[1] No change.

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of August, 1922, was published in THE PANAMA CANAL RECORD under date of September 13, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo carried over the principal trade routes during August, 1922, as compared with the preceding month, and with the corresponding month of last year:

	Atlantic to Pacific.			Pacific to Atlantic.		
	August, 1922.	July, 1922.	August, 1921.	August, 1922.	July, 1922.	August, 1921.
	Number of vessels.			Number of vessels.		
United States coastwise ports	35	31	19	25	25	23
United States and Far East	21	22	18	9	11	4
Europe and United States	12	11	17	8	19	23
United States and South America	16	14	11	21	13	13
Europe and South America	11	10	11	12	13	10
Cristobal and South America	11	8	12	9	9	11
Europe and Australasia	7	3	6	6	6	11
United States and Australasia	5	5	5	1	5	2
Europe and Canada	3	3	3	7	7	2
Mexico and United States	1	.....	.....	1	.....	1
Mexico and South America	4	3	2	1	3	1
United States and Canada	1	3	1	2	4	2
Miscellaneous	14	15	15	14	8	13
Totals	141	128	120	116	123	116
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	159,982	155,758	86,278	127,577	126,894	110,899
United States and Far East	111,865	113,464	90,256	48,807	62,230	20,622
Europe and United States	53,981	61,287	68,334	40,873	83,002	109,893
United States and South America	59,491	43,594	31,053	78,350	52,672	42,871
Europe and South America	47,156	41,296	47,902	52,121	58,963	45,656
Cristobal and South America	18,094	15,831	17,372	14,235	17,191	16,825
Europe and Australasia	47,541	20,122	42,837	28,182	36,851	61,147
United States and Australasia	32,241	32,317	27,714	4,135	22,791	4,514
Europe and Canada	15,303	27,813	16,695	34,919	38,355	12,134
Mexico and United States	2,957	.....	.....	5,043	.....	5,035

	Atlantic to Pacific.			Pacific to Atlantic.		
	August, 1922.	July, 1922.	August, 1921.	August, 1922.	July, 1922.	August, 1921.
	Panama Canal net tonnage.			Panama Canal net tonnage.		
Mexico and South America	24,831	15,812	9,587	4,822	15,542	4,274
United States and Canada	6,427	14,149	4,735	11,075	16,418	7,304
Miscellaneous	31,993	32,788	44,456	22,132	22,731	36,883
Totals	611,862	574,231	487,219	472,271	553,640	478,057
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	158,098	150,379	55,387	164,150	153,052	129,792
United States and Far East	140,316	163,433	112,454	45,833	57,846	29,308
Europe and United States	33,258	41,591	684	62,674	138,716	174,198
United States and South America	28,246	19,774	10,949	127,238	86,771	47,717
Europe and South America	43,968	27,514	23,500	73,800	76,851	45,625
Cristobal and South America	3,747	2,744	3,443	4,459	7,068	8,490
Europe and Australasia	35,736	15,741	16,266	33,609	36,769	54,877
United States and Australasia	27,630	30,525	31,150	1,465	14,362	1,585
Europe and Canada	10,654	4,913	8,828	54,263	56,084	17,702
Mexico and South America	42,800	29,590	17,718	.....	.....	.....
United States and Canada	6,440	20,291	2	11,712	20,892	5,962
Miscellaneous	25,868	35,917	37,589	29,986	20,277	6,047
Totals	556,761	542,412	317,970	609,189	668,688	521,303

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,055,336.75. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the revenue would have been increased by $233,015.55. The additional tolls would have been contributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$41,678.74	$26,176.40	$67,855.14
Chilean	4,325.35	1,554.65	5,880.00
Costa Rican	.25	.....	.25
Danish	2,591.50	1,406.05	3,997.55
Dutch	4,547.50	5,643.50	10,191.00
French	2,359.95	1,424.30	3,784.25
German	235.70	2,711 75	2,947.45
Japanese	5,186.05	2,748.65	7,934.70
Norwegian	6,196.05	4,597.00	10,793.05
Peruvian	6,323.70	4,965.50	11,289.20
Swedish	1,411.55	.....	1,411.55
United States	49,965.74	56,965.67	106,931.41
Totals	124,822.08	108,193.47	233,015.55

The additional tolls which would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$33,030.00	$37,588.90	$70,618.90
United States and Canal Zone ports	528.10	528.10	1,056.20
United States and United States possessions	.....	1,088.70	1,088.70
United States and foreign ports	16,416.94	17,759.97	34,176.91
Between foreign ports	[1] (9.30)	.....	[1] (9.30)
Totals	49,965.74	56,965.67	106,931.41

[1] Credit; tolls on vessel in ballast at the rate of 75 cents per net ton U. S. measurement.

Of the additional $233,015.55 revenue that would have been collected by using the Panama Canal rules of measurement exclusively, $15,114 represents the additional tolls that would have been collected on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE BY NATIONALITY OF VESSELS.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, for vessels transiting the Canal in August is shown in the following table, segregated by

nationality of vessels. A marked improvement will be noted in the ratio of cargo tonnage to net tonnage over August a year ago. In the ratios shown herewith only laden cargo-carrying vessels have been considered.

RATIO OF TONS OF CARGO TO NET TONNAGE, PANAMA CANAL MEASUREMENT.

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	0.95	1.28	1.08
Chilean	.55	.02	.42
Costa Rican	.11	.....	.11
Danish	1.01	1.68	1.34
Dutch	.52	1.42	1.04
French	.72	1.57	1.14
German	.89	1.42	1.32
Japanese	.96	1.44	1.17
Norwegian	1.30	1.43	1.51
Peruvian	.17	.35	.25
Swedish	1.33	.....	1.33
United States	1.17	1.36	1.26
Average ratio, August, 1922	1.03	1.29	1.17
Average ratio, July, 1922	1.13	1.25	1.19
Average ratio, August, 1921	85	1.20	1.03

COMMODITY STATISTICS.

Record lumber shipments from the west coast of the United States and Canada, together with a marked increase in nitrate shipments from South America were the outstanding features noted in the compilation of commodity statistics for August. These statistics, compiled from declarations of cargo and manifests submitted by the ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 78 per cent of the total cargo passing from the Atlantic to the Pacific, and 98 per cent of all cargo passing from the Pacific to Atlantic ports. A brief summary of the principal items is shown herewith, the figures representing tons of 2,240 pounds:

Commodity.	August, 1922.	July, 1922.	August, 1921.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	111,749	126,641	28,373
Railroad material	20,846	7,444	2,796
Other manufactured goods	27,939	27,058	5,516
Oils:			
Crude petroleum	45,319	35,043	36,454
Refined petroleum	70,911	69,457	28,685
Various other oils	3,983	10,009	2,117
Coal and coke	31,175	25,267	24,066
Sulphur	16,402	.....	19,350
Cotton, raw	9,719	5,760	34,482
Paper	6,858	5,109	1,508
Salt	5,778	25	686
Cement	4,909	2,446	3,511
General and miscellaneous	201,173	228,153	130,426
Total cargo, Atlantic to Pacific	556,761	542,412	317,970
Pacific to Atlantic.			
Lumber	145,213	107,181	35,054
Nitrate	97,438	47,149	39,349
Barley	50,689	28,600	77,661
Canned goods, fish, fruit, etc.	48,253	29,286	21,768
Ores:			
Iron	30,350	39,400	.....
Various other ores	9,178	15,078	6,524
Sugar	33,757	35,411	49,406
Oils:			
Crude petroleum	17,343	23,353	570
Lubricating	11,249	14,897	.....
Various other oils	5,121	35,324	2,361
Wheat	20,355	137,737	80,231
Metals:			
Copper	17,705	18,698	17,341
Various other metals	2,793	1,569	4,084
Phosphates	13,650	6,600	6,650

Commodity.	August, 1922.	July, 1922.	August, 1921.
Pacific to Atlantic—Continued			
Cold storage food products	9,664	6,820	31,658
Fruit, fresh and dried	8,284	2,168	5,192
Wool	6,637	13,497	10,468
Copra	5,847	8,185	3,115
Borax	5,322	5,333	.....
Rice	5,177	1,029	5,033
Cotton, raw	5,061	6,532	4,140
Beans, peas, etc	4,594	11,990	5,571
Coffee	3,780	5,647	6,710
General and miscellaneous cargo	51,729	67,204	108,417
Total cargo, Pacific to Atlantic	609,189	668,688	521,303

TRAFFIC BY NATIONALITY.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific.							
British	46	165,037	208,742	260,201	162,940	$201,117.50	182,291
Chilean	3	6,181	10,043	13,816	7,818	7,726.25	5,489
Costa Rican	1	43	45	50	35	53.75	5
Danish	3	7,332	10,136	11,709	7,250	8,532.02	8,039
Dutch	3	8,122	12,250	13,061	8,099	10,152.50	6,433
French	3	12,999	15,334	18,000	11,109	16,040.85	11,100
German	2	1,444	1,767	2,652	1,504	1,689.82	1,210
Japanese	8	31,911	37,295	48,330	30,948	39,567.95	35,828
Norwegian	7	26,697	33,860	41,138	26,549	31,949.07	37,378
Peruvian	4	5,214	10,701	17,069	8,704	6,517.50	1,845
Spanish	1	2,686	2,957	4,454	2,681	2,129.04	.....
Swedish	2	5,705	7,119	7,958	5,950	7,131.25	9,469
United States	58	207,208	261,613	327,204	205,157	244,350.82	257,674
Totals, August, 1922	141	480,579	611,862	765,642	478,744	576,958.32	556,761
Totals, July, 1922	128	454,736	574,231	722,758	453,528	549,218.11	542,412
Totals, August, 1921	120	394,295	487,219	607,852	387,071	465,017.24	317,970
From Pacific to Atlantic.							
British	34	98,360	124,115	155,397	96,750	120,928.24	153,225
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	48
Danish	2	6,645	7,771	7,943	5,010	8,240.75	13,085
Dutch	4	12,170	16,894	19,302	12,080	15,212.50	24,021
French	4	13,449	14,735	19,949	12,681	16,663.30	23,179
German	3	8,025	10,611	11,946	7,157	10,021.45	15,110
Japanese	9	26,427	29,104	38,151	26,004	47,775.65	41,822
Mexican	1	(1)	(1)	(1)	(1)	568.00	.....
Norwegian	7	17,142	20,875	26,740	16,821	19,535.96	29,942
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	2,919
United States	48	189,307	236,669	297,383	189,079	232,156.33	305,838
Totals, August, 1922	116	377,346	472,271	593,275	374,468	478,378.43	609,189
Totals, July, 1922	123	443,034	553,640	696,996	446,871	544,909.31	668,688
Totals, August, 1921	116	398,147	478,057	611,965	393,874	490,363.54	521,303
Total traffic.							
British	80	263,397	332,857	415,598	259,690	322,045.74	335,516
Chilean	4	7,992	13,225	17,614	10,090	9,990.00	5,537
Costa Rican	1	43	45	50	35	53.75	5
Danish	5	13,977	17,907	19,652	12,260	16,772.77	21,124
Dutch	7	20,292	29,144	32,363	20,179	25,365.00	30,454
French	7	26,448	30,069	37,949	23,790	32,704.15	34,279
German	5	9,469	12,378	14,598	8,661	11,711.27	16,320
Japanese	17	58,338	66,399	86,481	56,952	87,343.60	77,650
Mexican	1	(1)	(1)	(1)	(1)	568.00	.....
Norwegian	14	43,839	54,735	67,878	43,370	51,485.03	67,320
Peruvian	7	9,224	19,016	29,735	15,318	11,530.00	4,764
Spanish	1	2,686	2,957	4,454	2,681	2,129.04	.....
Swedish	2	5,705	7,119	7,958	5,950	7,131.25	9,469
United States	106	396,515	498,282	624,587	394,236	476,507.15	563,512
Totals, August, 1922	257	857,925	1,084,133	1,358,917	853,212	1,055,336.75	1,165,950
Totals, July, 1922	251	897,770	1,127,871	1,419,754	900,399	1,094,127.42	1,211,100
Totals, August, 1921	236	792,442	965,276	1,219,817	780,945	955,380.78	839,273

[1] Indicates a Mexican gunboat with displacement tonnage of 1,136.

LATIN-AMERICAN TRAFFIC.

Greatly increased shipments of nitrate, crude oil, copper, sugar, and iron ore from the west coast of South America, combined with an increase in shipments of fuel oil, coal, iron and steel and miscellaneous manufactured goods to South American west coast ports accounted for the considerable increase in Latin-American cargo tonnage as compared with August, 1921. Tonnage through the Canal the past month engaged in Latin-American trade is shown in the following tabulation, classified by nationality of vessels:

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
British	18	49,367	60,571	79,274	49,605	$61,708.75	60,249
United States	15	47,894	57,622	77,127	47,903	53,314.14	41,829
Peruvian	4	5,214	10,701	17,069	8,704	6,517.50	1,845
Chilean	3	6,181	10,043	13,816	7,818	7,726.25	5,489
Norwegian	2	7,128	9,263	11,327	7,146	8,910.00	14,007
Danish	2	4,063	4,819	6,450	3,948	4,445.77	2,700
Dutch	2	3,262	6,182	5,410	3,303	4,077.50	3,298
Japanese	1	3,645	4,289	5,790	3,564	4,556.25	1,196
Spanish	1	2,686	2,957	4,454	2,681	2,129.04	.....
Swedish	1	1,349	1,458	2,316	1,630	1,686.25	2,573
German	1	1,118	1,361	2,064	1,182	1,397.50	1,210
Totals, August, 1922	50	131,907	169,266	225,097	137,484	156,468.95	134,396
Totals, July, 1922	46	110,614	140,253	183,059	111,695	132,208.05	109,628
Totals, August, 1921	48	110,623	142,593	184,947	114,033	137,723.62	93,199

PACIFIC TO ATLANTIC.

United States	13	48,915	57,740	75,546	48,789	60,794.55	92,347
British	20	43,935	56,577	72,933	44,594	52,896.99	64,696
Norwegian	5	12,360	14,909	19,502	12,058	13,558.46	18,689
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	2,919
Dutch	2	4,514	7,467	7,312	4,520	5,642.50	9,991
French	2	4,451	5,000	6,856	4,428	5,563.75	7,963
Danish	1	2,438	2,485	2,647	1,685	2,982.00	4,417
German	1	2,404	2,496	2,575	1,626	2,995.20	3,326
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	48
Totals, August, 1922	48	124,838	158,171	203,835	126,586	151,709.70	204,396
Totals, July, 1922	45	127,374	161,605	216,995	131,922	153,036.64	189,467
Totals, August, 1921	46	116,107	146,490	192,066	118,531	131,986.74	106,174

A further classification of commercial traffic through the Canal during August is shown below:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Cargo-carrying vessels:						
Laden	124	570,387	$526,785.80	107	450,996	$447,252.60
Ballast	15	41,363	50,107.02	4	21,264	15,310.08
Tug	1	103	58.75	.....	.....	.....
Cruisers	.....	.....	.....	3	(1)	15,239.50
Gunboat	.....	.....	.....	1	(2)	568.00
Launches	1	9	6.75	1	11	8.25
Totals	141	611,862	576,958.32	116	472,271	478,378.43
Steamships	130	585,062	551,565.32	107	465,976	456,082.68
Motor ships	6	24,875	23,180.00	2	6,140	6,322.50
Motor schooners	3	1,813	2,147.50	2	144	157.50
Cruisers	.....	.....	.....	3	(1)	15,239.50
Tug	1	103	58.75	.....	.....	50
Gunboat	.....	.....	.....	1	(2)	568.50
Launches	1	9	6.75	1	11	8.25
Totals	141	611,862	576,958.32	116	472,271	478,378.43

[1] Displacement tonnage, 30,479. [2] Displacement tonnage, 1,136.

VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
British	4	17,225	$12,402.00	1	4,822	$3,471.84
Danish	1	2,166	1,559.52			
German	1	406	292.32			
Norwegian	1	5,181	3,730.32	1	5,043	3,630.96
Spanish	1	2,957	2,129.04			
United States	7	41,363	29,993.82	2	11,399	8,207.28
Totals	15	69,298	50,107.02	4	21,264	15,310.08

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during August, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated.

The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls, are not included in the commercial traffic.

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
U. S. naval vessels:						
Transport	1	[1] 3,908	$4,885.00			
Supply ships	1	[1] 4,405	5,506.25	1	[1] 3,919	$4,898.75
Tug	1	[2] 1,000	500.00	2	[2] 2,000	1,000.00
Gunboat				1	[2] 3,200	1,600.00
Submarines				14	[2] 6,668	3,334.00
Subtender				1	[2] 6,700	3,350.00
U. S. Army vessels:						
Tanker No. 1	1	[1] 1,138	1,422.50			
Mine planter	1	137	98.64			
Tug	1	[2] 595	297.50			
Launches	6	[3] 22	22.85	2	12	9.00
Totals	12		12,732.74	21		14,191.75

[1] Registered net tonnage. [2] Displacement tonnage. [3] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried cargo as follows:

	Tons.
Atlantic to Pacific ports	6,611
Pacific to Atlantic ports	30

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of August, 1922, are shown in the following tabulation:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	55,525	15,129	70,654
Local cargo shipped	tons	2,627	2,690	5,317
Transit cargo arriving	tons	1,146,987	1,146,484	2,320,471
Transit cargo clearing	tons	1,182,047	1,160,386	2,342,433
Cargo received for transshipment	tons	14,514	135	14,649
Cargo transshipped	tons	20,635	671	21,306
Vessels supplied with bunker coal:				
Commercial, other than Panama Railroad		55	5	60
Panama Railroad vessels		4		4
Total vessels supplied with coal		59	5	64
Coal supplied to above vessels:				
Commercial, other than Panama Railroad	tons	24,063	712	24,775
Panama Railroad	tons	2,052		2,052
Total coal supplied to vessels	tons	26,115	712	26,827

	Cristobal.	Balboa.	Total.
Coal issues, miscellaneous:			
Panama Canal departments.....tons..	331	123	454
Panama Railroad Company, excepting vessels.....tons..	36	.....	36
U. S. Army, excepting vessels.....tons..	413	.....	413
Individuals and companies.....tons..	288	.....	288
Total coal issues from Panama Canal deposits:			
August, 1922.....tons..	27,183	835	28,018
July, 1922.....tons..	16,267	8,176	24,443
August, 1921.....tons..	19,964	1,364	21,328
Coal on hand, September 1, 1922.....tons..	117,783	3,279	121,062
Coal on hand, August 1, 1922.....tons..	135,371	4,114	139,485
Coal received during month.....tons..	9,595	.....	9,595
Fuel oil issues:			
Panama Canal departments.....bbls..	6,231	17,974	24,205
Panama Railroad Company.....bbls..	263	164	427
Army and Navy.....bbls..	102	106	208
Individuals and companies.....bbls..	.....	180	180
Total issues and sales.....bbls..	6,596	18,424	25,020
Fuel oil on hand, September 1, 1922.....bbls..	71,832	62,284	134,116
Fuel oil on hand, August 1, 1922.....bbls..	78,428	80,708	159,136
Diesel oil issued during August, 1922.....bbls..	69	.....	69
Diesel oil on hand, September 1, 1922.....bbls..	48,638	887	49,525
Oil pumped for individuals and companies..... bbls..	534,628	136,858	671,486
Miscellaneous transfers.....bbls..	3,829	1,104	4,933
Total oil handled.....bbls..	545,122	156,387	701,509
Admeasurement certificates:			
U. S. equivalent issued or made.....	26	5	31
Measured for Panama Canal net tonnage.....	7	1	8
Remeasured for Panama Canal net tonnage.....	9	5	14
Panama Canal net tonnage corrected.....	13	5	18
U. S. equivalent tonnage corrected.....	14	8	22
Services of harbor equipment:			
Tugs, total operating hours.....	429	240	669
Launches, total operating hours.....	1,314	1,146	2,460
Revenues from tug service, pilotage, etc.:			
Tug service.....	$13,051.25	$6,472.50	$19,523.75
Launch service.....	1,562.00	1,787.00	3,349.00
Pilotage.....	13,912.00	3,572.00	17,484.00
Seamen.....	4,392.00	3,760.00	8,152.00
Wharfage.....	406.39	2,648.03	3,054.42
Miscellaneous cash collections.....	1,347.35	1,065.00	2,412.35
Vessels repaired at Panama Canal shops:			
Commercial.....	31	11	42
U. S. Army and Navy.....	5	2	7
Canal equipment.....	4	18	22
Vessels dry-docked:			
Commercial.....	.....	1	1
Army and Navy.....	2	1	3
Canal equipment.....	.....	2	2
Clearances issued.....	164	148	312
Bills of health issued.....	166	148	314

ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during August, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross. tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal..	325	1,719,010	1,086,091	267	1,433,334	913,911
Vessels entering the port but not transiting the Canal.....	55	289,249	172,756	6	16,180	9,803
Vessels transiting Canal and handling passengers or cargo.....	56	259,392	156,102	43	163,470	99,102

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships clearing.						
All vessels, including those transiting Canal	312	1,726,132	1,085,116	267	1,444,057	920,409
Vessels entering the port but not transiting Canal	57	310,156	187,915	5	15,039	8,887
Vessels transiting Canal and handling passengers or cargo	57	264,552	158,713	43	163,586	97,795

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of August, 1922:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,044	597	1,641	22	9	31
From Pacific ports	81	22	103	139	22	161
Total disembarking	1,125	619	1,744	161	31	192
Embarking:						
For Atlantic ports	1,331	905	2,236	8	8	16
For Pacific ports	276	56	332	60	42	102
Total embarking	1,607	961	2,568	68	50	118
Remaining on board vessels:						
From Atlantic to Pacific ports	801	2,210	3,011	751	2,169	2,920
From Pacific to Atlantic ports	411	946	1,357	532	1,014	1,546
From Atlantic to Atlantic ports	597	103	700	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	.....	7	7
Total remaining on board	1,809	3,259	5,068	1,283	3,190	4,473
Total passengers arriving	2,934	3,878	6,812	1,444	3,221	4,665
Total passengers departing	3,416	4,220	7,636	1,351	3,240	4,591

COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of August, 1922:

	Ice.	Cold storage.	Groceries.	Laundry.	Miscellaneous.	Total.
Sales at Cristobal to:						
U. S. Government vessels	$220.95	$2,902.42	$3,104.91	.....	$165.99	$6,394.27
Panama Railroad vessels	8.10	2,520.37	31.70	.....	747.49	3,307.66
Other commercial vessels	946.08	14,364.93	2,216.08	.....	1,194.04	18,721.13
Total sales, Aug., 1922	1,175.13	19,787.72	5,352.69	.....	2,107.52	28,423.06
Total sales, July, 1922	1,747.94	24,832.16	4,081.19	.....	1,978.20	32,639.49
Total sales, Aug., 1921	3,306.15	23,889.06	4,859.65	$5,152.98	1,271.17	38,479.01
Sales at Balboa to:						
U. S. Government vessels	16.92	361.48	75.52	.....	179.50	630.42
Commercial vessels	383.44	6,838.15	1,073.85	2,003.18	535.61	10,834.23
Total sales, Aug., 1922	400.36	7,199.63	1,146.37	2,003.18	715.11	11,464.65
Total sales, July, 1922	466.51	13,527.72	6,697.40	629.99	1,535.72	22,857.34
Total sales, Aug., 1921	1,129.88	53,711.54	7,889.82	1,013.98	998.91	64,744.13

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of August, 1922, as compared with the preceding month and with the corresponding month of last year:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Grand total.
	North.	South.	Total.	North.	South.	Total.	
Gatun	111	137	248	10	2	12	260
Pedro Miguel	115	139	254	16	10	26	280
Miraflores	114	140	254	16	9	25	279
Total lockages, August, 1922	340	416	756	42	21	63	819
Total lockages, July, 1922	359	368	727	35	28	63	790
Total lockages, August, 1921	340	345	685	42	68	110	795

NUMBER OF VESSELS PUT THROUGH LOCKS.

	Commercial.			Noncommercial.			Grand total.
	North.	South.	Total.	North.	South.	Total.	
Gatun	120	146	266	33	15	48	314
Pedro Miguel	118	141	259	42	17	59	318
Miraflores	118	141	259	41	22	63	322
Total vessels, August, 1922	356	428	784	116	54	170	954
Total vessels, July, 1922	363	375	738	66	55	121	859
Total vessels, August, 1921	359	363	722	90	161	251	973

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
Army and Navy vessels	27	28	31
Canal equipment	21	31	32

The total consumption of water for lockage, maintenance, and loss in leakage, was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,016,580,000	956,140,000	826,640,000
Leakage	20,000,000	19,830,000	20,000,000
Maintenance	.....	.....	4,920,000
Total consumption, August, 1922	1,036,580,000	975,970,000	851,560,000
Total consumption, July, 1922	1,016,116,000	911,800,000	813,870,000
Total consumption, August, 1921	955,490,000	875,430,000	891,700,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of August, 1922, are shown in comparative form:

Rainfall.	August, 1922.	August, 1921.	August—Years of record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Total rainfall for month:					
Pacific Section	3.92	9.65	12.03	3.92	8.13
Central Section	8.22	15.31	15.31	8.22	11.05
Atlantic Section	10.33	20.91	22.30	6.91	15.98
Maximum recorded on any one day	5.60	8.37	[1] 10.86	.....	.....
Gatun Lake watershed	10.08	16.46	18.61	8.88	12.02
Chagres River watershed above Alhajuela	11.13	20.68	22.20	7.62	14.65
Maximum recorded for month at any one point	14.53	30.32	38.31	.....	.....
Minimum recorded for month at any one point	1.29	8.06	.....	1.14	.....

[1] This represents the maximum 24-hour rainfall recorded on the Canal Zone and immediate vicinity since American occupation. Recorded at Porto Bello on December 28–29, 1909.

	August, 1922.	August, 1921.	August—Years of record.		
			Maximum.	Minimum.	Mean.
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	2,624	3,416	4,724	1,579	3,018
Maximum momentary discharge for the month	23,150	20,600	[1] 170,000	.....	.....
Gatun Lake watershed total yield	5,676	10,448	11,656	4,956	7,676
Gatun Lake watershed net yield	5,120	10,043	11,089	4,437	7,190
Draft on Gatun Lake for lockages and power	2,038	2,233	[2] 2,343	[2] 1,319	[2] 1,904

[1] This figure represents the maximum momentary discharge on record, December 26, 1909. [2] Not including August, 1914.

NOTE—Extreme outlying stations in the Republic of Panama are not included in this report.

SEISMOLOGY.

Slight seismic tremors were recorded on the 2d, 9th and 23d.

ELECTRICAL DIVISION.

POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	August, 1922.	July, 1922.	August, 1921.
Gross output K. W. H.:			
Gatun hydroelectric station	4,297,700	4,234,700	5,522,900
Miraflores steam plant	490	5,050	2,100
Power distributed to consumers ..... KWH	3,620,168	3,577,845	4,663,235
Loss of power in plant auxiliaries, transmission, and transformation ..... KWH	678,022	661,895	861,765
Per cent of loss of power to gross output	15.77	15.61	15.6
Water consumption ..... cubic feet	3,486,946,550	3,437,939,069	4,186,412,827
Oil consumption ..... barrels	1,885	1,830	1,990

Miscellaneous electrical repairs and installations of electrical equipment were made on 23 vessels during the month. There were 313 work orders issued during the month as compared with 441 for the preceding month.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 40 vessels at Cristobal and 31 vessels at Balboa. Of these, 2 were placed in dry dock at Cristobal and 4 at Balboa. The more important repair work included the following:

On U. S. S. *O–15* the hull was cleaned and painted; valves were ground; tanks tested, leaks repaired, and gaskets renewed as necessary. Plates in superstructure and superstructure deck were renewed; larger bow planes and operating gear were installed. The torpedo tube shutters were repaired and other structural repairs and alterations made.

The widening of the dredge *Paraiso* was completed. This dredge is now 10 feet wider and so much additional stability has been given her that she should be safe against overturning under the most adverse operating accident. The pontoons attached for widening her are each divided by water-tight bulkheads into 5 compartments so that she now has a water-tight subdivision of her outer hull similar to the newer type of warships. A continuous wood fender belt, edge fastened, 52 inches deep and 12 inches thick has been installed along her entire length.

The steamship *Pennsylvanian* was docked on account of a broken propeller. All 4 blades were removed and spare blades installed.

The submarine *O–16* was docked for altering bow planes, removal of main motors and substitution of spares, rebuilding of superstructure, and general overhaul.

Coast Guard Cutter *No. 3*, belonging to the Colombian government, was hoisted upon the dock for renewal of a large part of her hull plating, overhaul of main engines, and general overhaul of the vessel.

Barge *No. 137* was docked, plates and frames removed amidships, both sides, and damages repaired, which were received when the steamship *Nordfarer* collided with her and squeezed her against the bank.

The fabricated steel for both Navy oil tanks was distributed on the site, the bottom and lower ring of the first tank completed for lowering on the foundation, and assembly of the bottom of the second tank begun.

The output of the foundry in patterns and castings for August as compared with the preceding month, was as follows:

	July, 1922.			August, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	12	289	29,031	3	368	16,838
Steel	3	32	21,510	.....	177	31,893
Nonferrous	2	208	4,099	3	223	3,474

The following is a statement of all job and blanket orders issued and completed during the month:

	Uncompleted, August 1.	Authorized in August.	Completed in August.	Uncompleted, August 31.
Job orders	320	526	477	369
Blanket orders	343	7	.....	350

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	August, 1922.	July, 1922.	August, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	629,260,500	636,373,500	740,414,000
Filtration plants	360,180,000	367,976,000	455,145,000
Water consumed by Panama City	88,131,000	86,513,000	97,595,000
Water consumed by Colon	56,265,500	58,505,000	54,005,250
Sales of water to vessels	9,181,835	8,933,941	12,239,017

DREDGING DIVISION.

East and West Culebra slides both showed a slight general movement during the first part of the month. On the 28th a small slide occurred at the northern end of East Culebra, between stations 1770-00 and 1774-00.

Cucaracha and Barge Repair slides showed no movement during the month. There was no interference with Canal traffic from slides.

The total excavation during the month, including earth and rock, was 286,900 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Stations.	Equipment.
	Earth.	Rock.			
				Gatun Lake.	
2,500	1,100	1,400	Maintenance	1452-50 to 1453-00 E.	*Cascadas.*
				La Pita improvement project.	
37,100	5,100	32,000	Maintenance	1649-50 to 1659-00 E.	*Gamboa.*
17,700	3,000	14,700	Maintenance	1650-50 to 1663-00 E.	*Paraiso.*
				Powderhouse slide.	
5,800	1,850	3,950	Maintenance	1624-00 to 1627-00 E.	*Gamboa.*
8,400	1,350	7,050	Maintenance	1614-00 to 1624-00 E.	*Paraiso.*
				Paraiso, point of intersection.	
1,600	1,200	400	Maintenance	1906-00 to 1908-00 W.	*Cascadas.*
				Cucaracha signal station.	
8,150	1,450	6,700	Maintenance	1816-00 to 1819-00 W.	*Cascadas.*
				East and West Culebra slides.	
27,100	11,250	15,850	Maintenance	1791-00 to 1794-00 W.	*Cascadas.*
				1762-50 to 1774-50 E. and W.	*Cascadas.*
				East Culebra slide.	
8,150	1,650	6,500	Maintenance	1769-50 to 1774-00 E.	*Paraiso.*
				Whitehouse slide.	
3,300	650	2,650	Maintenance	1610-00 E.	*Paraiso.*
				Miraflores, point of intersection.	
18,000	8,000	10,000	Maintenance	2074-50 to 2079-50 W.	*Cascadas.*
				Coco Solo Naval Air Station.	
29,300	29,300	.....	Maintenance	W/R. (Z-3142)	*No. 83.*
				Terminal operations, Cristobal.	
4,500	2,500	2,000	Auxiliary	Slip between piers 6 and 7	*Cascadas.*
9,300	1,300	8,000	Auxiliary	Slip between piers 8 and 9	*Cascadas.*
				Cristobal coaling station.	
106,000	106,000	.....	Auxiliary	West slip appr. A. F. E. 1547	*No. 83.*
286,900	175,700	111,200			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped at sea, Pacific entrance	31,800
Dumped in Gatun Lake, north of Gamboa	119,800
Fill, west of hangar No. 3, Coco Solo	29,300
Fill, southwest of coaling plant, Cristobal	106,000
Total	286,900

VITAL STATISTICS.

A total of 192 deaths occurred during the month of August, 1922, among the population of the Canal Zone and the cities of Panama and Colon. The 3 leading causes of death were tuberculosis, which caused 32 deaths; pneumonia, 26; and diarrhea and enteritis, 21. There were 2 deaths from diphtheria, 1 from malaria, 2 from typhoid fever, and 1 from dysentery. Of the total deaths 71, or 42 per cent, occurred among children under 5 years of age. There were 12 deaths of nonresidents; these are not included in the above statistics.

There were 286 live births reported during the month, and 14 stillbirths. Deaths among children under 1 year of age numbered 48.

One hundred sixty-five cases of malaria were reported; 17 originating in Panama, 7 in Colon, 107 in the Canal Zone (these consisted of 14 employees, 68 soldiers, and 25 nonemployees) and 34 in the interior and from ships.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of August 31, 1922.			Total occupants.		
	Men.	Women.	Children.	Total.	July, 1922.	August, 1921.
Americans	2,156	1,662	1,849	5,667	5,835	7,056
Europeans	80	42	93	215	225	231
West Indians	4,052	2,689	5,581	12,322	12,336	13,166
Totals, August, 1922	6,288	4,393	7,523	18,204	.....	.....
Totals, July, 1922	6,380	4,398	7,618	.....	18,396	.....
Totals, August, 1921	8,064	4,629	7,760	.....	.....	20,453

WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of August 16, 1922, together with a comparison of the working force for the preceding month and that of August, 1921:

	Employees as of August 16, 1922.			Total employees.	
	Gold.	Silver.	Total.	July, 1922.	August, 1921.
Operation and Maintenance:					
Office	28	34	62	63	61
Electrical	146	147	293	277	358
Municipal Engineering	79	524	603	657	827
Lock Operation	168	540	708	717	729
Dredging	132	695	827	780	903
Mechanical Division	328	637	965	859	1,672
Marine Division	154	362	516	566	615
Fortifications	36	169	205	204	261
Totals	1,071	3,108	4,179	4,123	5,426
Supply Department:					
Transportation	33	150	183	180	.....
Quartermaster	135	867	1,002	1,015	1,477
Subsistence	5	76	81	81	289
Commissary	165	750	915	927	1,318
Cattle Industry—Plantations	6	126	132	137	146
Hotel Washington	8	84	92	89	99
Totals	352	2,053	2,405	2,429	3,329

	Employees as of August 16, 1922.			Total employees.	
	Gold.	Silver.	Total.	July, 1922.	August, 1921.
Accounting Department	181	10	191	195	214
Health Department	216	707	923	921	969
Executive Department	459	207	666	685	758
Totals	856	924	1,780	1,801	1,941
Panama Railroad Company:					
Superintendent	47	210	257	242	399
Transportation	68	100	168	167	209
Receiving and Forwarding Agency	65	708	773	610	841
Coaling Station	84	625	709	540	673
Totals	264	1,643	1,907	1,559	2,122
Grand totals, August, 1922	2,543	7,728	10,271	.....	.....
Grand totals, July, 1922	2,573	7,339	.....	9,912	.....
Grand totals, August, 1921	3,239	9,579	.....	.....	12,818

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of August, cash sales from stock, etc., are shown below in comparative form:

	August, 1922.	July, 1922.	August, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and maintenance	[1] $209,286.36	$92,098.68	$231,470.63
Miscellaneous departments	2,663.25	2,383.80	17,068.84
Totals	211,949.61	94,482.48	248,539.47
Cash sales on the Isthmus:			
Stock	31,964.53	21,538.69	26,170.91
Fuel oil	388.54	520.52	1,947.40
Scrap	996.86	2,183.17	1,270.07
Obsolete and second-hand material	1,695.62	1,065.31	5,432.93
Totals	35,045.55	25,307.69	34,821.31

[1] Includes about $156,000 for fuel oil received.

Respectfully,

M. L. WALKER,

Acting Governor.

Deceased and Insane Employees.

The estates of the following deceased or insane employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

DECEASED.

Name.	Check No.	Native of—	Isthmian residence.	Employed by—	Date of death.
Thomas Ryner	23200	Dominica	Colon	Coaling Plant	August 1, 1922.
Jose Arrieta	50476	Spain	Panama	Dredging Division	August 3, 1922.
Joseph Harper	25695	Barbados	Colon	R. and F. Agent	August 21, 1922.
David Arthur	47221	Barbados	La Boca	Balboa coaling station	August 23, 1922.
Alfred Ludford	58051	Jamaica	Colon	Mechanical Division	August 27, 1922.

INSANE.

Name.	Check No.	Native of—	Isthmian residence.	Employed by—	Date of commitment.
Robert Muir	43332	Jamaica	Colon	Panama Railroad	July 11, 1922.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 23, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Ruahine	16	17.00	17	6.25	17	13.46	17	19.15	British	New Zealand Shipping Co	480.6	60.3	26.7	London	Auckland	Textiles, iron, etc	3,478	11,027	8,188
Essequibo	16	15.30	17	7.26	17	14.32	17	16.23	British	Pacific Steam Navigation Co	450.0	57.0	25.3	New York	Valparaiso	General	2,470	9,099	6,117
Bologna	15	7.25	17	9.13	17	15.50	17	16.43	Italian	Italian Line	380.0	46.8	19.0	Genoa	Valparaiso	General	680	5,531	3,773
Dinteldijk	16	15.24	17	11.13	17	17.59	17	19.00	Dutch	Holland-American Line	485.0	62.0	20.7	Rotterdam	Vancouver	General	4,815	10,786	7,551
Roman Prince	12	18.43	17	11.49	17	19.05	17	20.00	British	Prince Line, Ltd	420.0	54.1	25.0	Antwerp	Los Angeles	General	6,300	6,719	5,110
Ohioan	17	7.08	17	12.55	17	19.45	17	20.45	American	American-Hawaiian Line	407.0	53.7	23.10	New York	Los Angeles	General	5,117	7,112	4,896
Bernice G.[1]			17		17	13.38			American	O. E. McCoin	20.4	7.8		Cristobal	Gatun Lake			2	2
Mahia	17	16.07	18	6.20	18	13.55	18	14.59	British	Shaw, Savill & Albion Co	477.6	63.0	28.0	London	Auckland	General	4,750	11,026	7,912
Rhodophis	17	18.25	18	7.15	18	14.54	18	16.06	German	Kosmos Line	435.0	53.0	23.6	Hamburg	Valparaiso	General	3,935	7,525	5,154
Santa Clara	15	7.30	18	8.48	18	16.00	18	17.00	American	Atlantic & Pacific Steamship Co.	404.6	53.9	26.7	New York	Seattle	General	5,960	6,760	4,450
Stuart Dollar	18	10.00	18	10.25	18	17.00	18	21.20	American	Dollar Line	429.0	55.0	23.0	New York	Vancouver	General, steel	6,067	7,584	5,538
Chaumont[2]	18	6.20	18	11.50	18	18.05	20	11.24	American	U. S. Navy	436.0	58.0	22.0	Hampton R'ds	San Diego	Naval stores	351		
Kina	18	12.25	18	12.50	18	19.32	18	20.45	Danish	Orient Steamship Co	374.0	53.3	24.6	Copenhagen	Los Angeles	General	4,666	6,080	4,618
Galveston[3]	16	15.03	19	6.10	19	14.07	19	14.14	American	U. S. Navy	308.0	44.0	18.5	Trujillo	Balboa				
Patuxent[4]	11	19.25	19	6.15	19	14.00			American	U. S. Navy	156.0	24.0		Cristobal	Balboa				
Atlanta City	18	15.06	19	7.00	19	15.00	19	16.04	American	U. S. Steel Products Co	424.5	56.2	25.0	Mobile	Los Angeles	General	7,601	7,539	5,448
Robin Goodfellow	18	17.38	19	8.43	19	16.34	19	17.40	American	Robin Line	424.8	55.2	27.8	New York	San Diego	General	8,550	7,473	5,536
Sunbeam	19	7.50	19	9.25	19	17.15	19	18.10	American	Sun Co	429.0	59.0	23.0	Philadelphia	Los Angeles	Ballast		7,701	5,472
Imperial	16	16.03	20	6.25	20	13.45	20	15.54	Chilean	Chilean Line	336.8	41.2	23.6	Cristobal	Valparaiso	General	702	3,296	2,156
Deucalion	19	23.24	20	7.00	20	14.48	20	15.54	British	Alfred Holt & Co	443.0	52.0	25.0	New York	Yokohama	General	4,610	6,973	4,917
Nagato Maru	20	10.47	20	10.55	20	18.05	20	19.17	Japanese	Nippon Yusen Kaisha	385.0	51.0	23.6	New York	Yokohama	General	4,505	6,043	4,509
Gaelic Prince	20	8.40	20	12.45	20	20.03	20	21.08	British	Prince Line, Ltd	449.5	57.0	28.3	New York	Hongkong	General, case oil	8,000	9,160	6,671
Ardmore	20	19.18	21	6.20	21	14.02	21	15.43	American	Standard Oil Co	449.5	59.6	21.0	Rotterdam	Talara	Ballast		8,612	6,457
D. G. Schofield	20	19.50	21	7.20	21	14.34	21	15.44	American	Standard Oil Co	439.5	58.0	21.0	New York	San Francisco	General	3,221	8,912	6,254
Borgland[5]	20	22.02	21	8.50	21	15.32	22	23.22	Norwegian	Peter Olsen	370.0	52.0	20.0	Christiania	San Francisco	General	3,860	5,274	3,886
Mantaro	16	20.00	21	10.37	21	17.13	21	18.14	Peruvian	Peruvian Line	367.3	46.0	19.3	Cristobal	Buenaventura	General	218	4,838	2,959
Limnea	21	12.55	21	13.05	21	20.00	22	19.46	British	Anglo-Saxon Petroleum Co	412.0	53.4	24.6	Port Arthur	Shanghai	Kerosene	7,536	6,090	4,324
Polaris[4]			21	6.40	21				American	Captain Dunn				Cristobal	Balboa	Ballast		41	24
Mary J[1]	19		21		21	10.49			American	A. V. Mitchell				Cristobal	Gatun Lake	Ballast		1	1
Iowan	22	6.45	22	9.36	22	16.37	22	17.30	American	American-Hawaiian Line	407.7	53.7	22.0	Glasgow	Los Angeles	General	4,978	7,091	5,002
Kanju Maru	15	8.35	22	11.15	22	18.17	22	19.30	Japanese	Asahise Kiyu Kabushiki Kaisha	420.0	54.0	20.10	Hamburg	Los Angeles	Ballast		6,666	4,522
Iowa	22	6.18	22	11.54	22	19.07	22	20.08	French	French Line	448.9	53.3	17.7	Bordeaux	San Diego	General	1,450	7,520	5,070
Orinoco	22	13.40	23	6.13	23	13.59	23	15.00	American	Oriental Navigation Co	376.4	52.3	22.6	Philadelphia	San Francisco	General	5,900	5,455	3,902
Marore	23	12.27	23	7.00	23	15.02	23	16.20	American	Guaranty Trust Co	550.3	72.2	25.0	New York	Cruz Grande	Ballast		15,551	4,297
Santore	23	4.22	23	8.53	23	16.44	23	17.45	American	Guaranty Trust Co	449.0	57.0	20.0	New York	Cruz Grande	Ballast		7,808	5,139
Lehigh	23	8.17	23	9.15	23	15.56	23	18.05	American	N. Atl. & Western S. S. Co. (S.B.)	390.0	54.2	19 6	Boston	Seattle	General	3,066	6,142	4,276

[1] Launch. [2] U. S. Navy transport. [3] Cruiser. [4] Tug. [5] Motor ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Roxburg	16	22.00	17	8.20	17	17.37	17	19.29	British	Ridley Son & Tully	355.4	50.0	25.0	Antofagasta	Philadelphia	Nitrate	7,094	4,880	3,511
Huntsman	17	1.00	17	8.45	17	16.29	17	17.19	British	Harrison Line	482.0	58.3	27.0	San Francisco	Liverpool	General	10,278	9,256	6,534
Portsaid Maru	18	6.03	18	7.53	18	15.38	18	15.38	Japanese	Kokusai Kisen Kabushiki Kaisha	385.0	51.0	23.0	San Francisco	Norfolk	Barley	7,236	5,914	4,399
Niels Nielsen	18	12.00	18	12.55	18	20.30	19	11.45	Norwegian	B. Stolt Nielsen & Co	411.6	54.2	24.6	Portland	Dunkirk	Wheat, barley	7,663	6,623	5,062
Bessemer City	19	8.45	19	9.40	19	17.50	19	20.45	American	Isthmian Steamship Lines	424.2	56.2	25.0	Honolulu	Baltimore	Pineapples	8,000	7,611	5,450
Salvador	19	7.25	19	10.59	19	18.20			British	Pacific Steam Navigation Co	215.0	34.5	15.2	Champerico	Cristobal	General	445	1,213	692
Trophon	14	18.10	19	12.48	19	19.34	19	20.30	British	Sheel Oil Co	350.8	46.1	24.0	Los Angeles	Tampico	Ballast		4,336	3,161
Junin	19	15.00	20	6.51	20	15.02	20	16.06	British	Pacific Steam Navigation Co	391.5	50.2	24.0	Punta Arenas	Liverpool	General	5,728	5,930	4,395
Italia	20	8.30	20	9.39	20	17.00	20	18.30	Swedish	Swedish Lloyds	283.0	41.0	18.0	Iquique	New Orleans	Nitrate	2,720	2,321	1,457
Koranton	20	11.45	20	12.35	20	20.06	21	18.00	British	R. Champman & Son	412.6	55.5	27.8	Portland	Cristobal[6]	Wheat	8,800	6,811	4,810
Bolivia	20	13.00	20	14.13	20	22.37	21	1.47	Danish	Orient Steamship Co	393.7	55.9	27.0	Honolulu	Copenhagen	General	9,500	7,133	5,263
Ebro	20	18.00	21	7.00	21	14.30	21	18.15	British	Pacific Steam Navigation Co	450.0	59.0	25.6	Valoaraiso	New York	General	4,444	9,151	6,227
Henry S. Grove	21	4.40	21	7.46	21	15.57	21	15.57	American	Pacific Steamship Co	420.6	55.0	27.0	Bellingham	Baltimore	General, lumber	8,000	7,654	4,688
Argonne	20	6.45	21	10.54	21	17.13	21	23.55	American	U. S. Army	448.0	58.0	20.6	San Francisco	Philadelphia	Govt. supplies	393	5,879	4,335
Ansaldo San Giorgio II	21	14.15	22	6.58	22	14.57	22	14.57	Italian	National Navigation Co	391.7	52.0	24.4	Valparaiso	Genoa	General	7,336	5,902	4,287
Willpolo	21	23.00	22	7.47	22	15.19	22	15.19	American	Williams Steamship Co	386.8	52.2	23.0	Portland	Philadelphia	General, lumber	5,540	5,679	4,112
Dicto	22	9.00	22	8.59	22	16.52	23	14.55	Norwegian	D. Stolt Nielsen	341.2	48.2	22.6	Portland	Cork	Wheat	5,043	4,369	3,180
Lochkatrine	22	14.00	23	7.00	23	14.05	23	20.17	British	Royal Mail Steam Packet Co	485.4	62.3	28.7	Tacoma	London	General	9,100	10,802	7,595
South Gate	22	20.00	23	7.42	23	16.30	23	17.55	British	Andrew Weir & Co	351.3	43.2	23.0	Pisagua	Alicante	Nitrate	5,400	4,054	3,057
Cold Harbor	22	20.45	23	8.58	23	17.27	24	6.48	American	N. American & West. S. S. Co	390.0	54.2	27.0	Seattle	Philadelphia	General, lumber	6,094	6,166	4,312
Baron Polwarth	22	22.10	23	9.48	23	17.56	23	19.10	British	Hogarth Shipping Co	400.2	53.0	23.6	Portland	Hampton R'ds	Wheat	7,194	5,497	4,105
Missourian	22	23.30	23	10.47	23	18.14	23	18.14	American	United American Lines	445.0	59.8	26.6	Seattle	Hamburg	General	8,000	8,567	6,020
Tiger	23	6.30	23	11.52	23	19.27	23	19.27	American	Crowell & Thurlow	410.0	56.0	28.0	Portland	Baltimore	General, lumber	900	8,243	6,213
Ares	23	10.00	23	12.40	23	21.05	24	20.13	Dutch	Royal Netherlands W. I. Mail	341.0	49.0	20.0	Valparaiso	Amsterdam	General, nitrate	3,750	4,385	3,195

[6] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Sept. 17	Abangarez	United Fruit Co	New Orleans and Habana.
Sept. 17	Toloa	United Fruit Co	Port Limon.
Sept. 17	Antiochia	Hamburg-American Line	Hamburg via wayports.
Sept. 18	Parismina	United Fruit Co	New Orleans.
Sept. 19	Calamares	United Fruit Co	New York via Habana.
Sept. 19	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.
Sept. 20	Tivives	United Fruit Co	Colombian ports.
Sept. 20	Cambrai[7]	United States Army	New York.
Sept. 21	Abangarez	United Fruit Co	Bocas del Toro.
Sept. 21	Metapan	United Fruit Co	New York via Kingston.
Sept. 21	Solana	Pacific Mail Steamship Co	Tampico.
Sept. 22	Columbia	N. O. & S. A. S. S. Line	New Orleans.
Sept. 23	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Sept. 17	Toloa	United Fruit Co	New York via Habana.
Sept. 18	Abangarez	United Fruit Co	Bocas del Toro.
Sept. 18	Antiochia	Hamburg-American Line	Port Limon.
Sept. 19	Colon	Panama Railroad Steamship Line	New York via Haiti.
Sept. 19	Cristobal	Panama Railroad Steamship Line	Norfolk.
Sept. 20	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
Sept. 20	Calamares	United Fruit Co	Port Limon.
Sept. 21	Parismina	United Fruit Co	New Orleans via wayports.
Sept. 21	Abangarez	United Fruit Co	New Orleans.
Sept. 21	Tivives	United Fruit Co	New York via Kingston.
Sept. 21	Metapan	United Fruit Co	Colombian ports.
Sept. 23	Cambrai[7]	U. S. Army	New York.
Sept. 23	Oranje Nassau	Royal Netherlands W. I. Mail	Puerto Colombia.
Sept. 23	Columbia	N. O. & S. A. S. S. Line	New Orleans.

PORT OF BALBOA.

				Sept. 18	Costa Rica	Costa Rican Government	Guayaquil.
				Sept. 18	Guardian	All-America Cables Co	Antofagasta.

[7] U. S. Army transport.

* Other than ships passing through the Canal.

Financial Receipts and Disbursements, July, 1922.

BALBOA HEIGHTS, C. Z., September 20, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: Herewith is a report showing commissary sales, financial receipts and expenditures, and cash balance available in The Panama Canal appropriations for the month of July, 1922, as compared with the preceding month, and with the corresponding month of last year:

	July, 1922.	June, 1922.	July, 1921.
Cash balance available for expenditure in Canal appropriations on last day of month	$14,971,224.49	$11,164,010.49	$15,389.317.00
Payments made from appropriations:			
By Paymaster on the Isthmus	861,765.47	852,957.79	1,272,050.24
By Disbursing Clerk, Washington, D. C.	106,778.78	194,244.20	155,303.14
Collections on the Isthmus:			
Repaid to appropriations	532,274.07	477,814.13	690,202.83
Trust funds	.....	82.00	241,270.03
Tolls	1,094,132.67	932,300.62	894,523.91
Taxes, licenses, fees, fines, etc.	2,581.35	2,538.91	3,884.30
Postal receipts	8,242.98	9,261.06	9,212.79
Sales of water	9,779.47	.....	20,517.30
Interest on bank balances	.....	25,000.00	.....
Total collections on the Isthmus	1,647,010.54	1,446,996.72	1,769,611.16
Collections by the Disbursing Clerk, Washington, D. C.	53,080.90	132,912.03	894.56
Deposits with the Assistant Treasurer, United States	52,900.00	41,816.25	61,500.00
Canal Zone and miscellaneous funds:			
Receipts—			
Money order funds	125,979.94	103,232.55	112,295.01
Trust funds	523.84	21.50	2,295.68
Clubhouse funds	30,117.89	31,344.42	36,428.49
Treasury savings certificate funds	34,960.00	43,510.00	.....
Interest	2,903.83	6,224.95	3,100.80
Total receipts	194,476.50	184,333.42	154,119.98
Disbursements:			
Money order funds	211,876.00	131,284.65	102,300.00
Trust funds	275.52	2,047.96	1,712.87
Clubhouse funds	36,030.36	24,371.40	38,985.77
Treasury savings certificate funds	43,700.00	.....	.....
Interest	832.95	990.08	1,117.77
Total disbursements	292,714.83	158,694.09	144,116.41
Pay roll on the Isthmus:			
Maintenance and operation	584,273.44	602,828.83	834,414.82
Sanitation	68,546.40	69,204.52	81,864.02
Civil Government	49,357.22	65,949.22	52,043 89
Total pay roll on Isthmus	702,177.06	737,982.57	968,322.73
Sales of commissary supplies:			
To The Panama Canal	60,294.67	57,642.98	107,409.37
To vessels other than those of the United States Government and Panama Railroad Co.	27,962.76	23,747.18	41,045.29
To the Panama Railroad Co., including its steamships and the Hotel Washington	13,602.07	18,116.51	16,256.97
To the United States Government including the Army and Navy	95,681.29	108,086.15	136,086.07
To individuals and companies through charge accounts.	38,716.69	36,394.10	25,632.07
To individuals purchasing coupons	302,821.41	302,985.92	390,604.33
Total gross sales	538,788.89	546,972.84	717,034.10

Respectfully,

M. L. WALKER,
Acting Governor.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., October 4, 1922. No. 8.

Canal Traffic During September, 1922.

A total of 240 ocean-going commercial vessels transited the Canal during the month of September, 1922. Tolls on these vessels aggregated $1,020,064.55 as compared with $1,055,336.75 on 257 vessels in the preceding month and $892,001.54 for 221 vessels in the month of September, 1921.

In addition to the above commercial traffic, 11 small launches transited the Canal during the month, on which tolls of $36.50 were paid, and 17 United States Government vessels were passed through the Canal free of tolls.

Traffic for the month showed a substantial increase over traffic through the Canal during September of last year, particularly in point of cargo tonnage, which was greater by approximately 50 per cent.

Barley and wheat shipments from the west coast of North America were relatively small, being only a little more than half of the total shipments of September a year ago. Lumber shipments were comparatively heavy but considerably under the record movement of last month. Nitrate shipments approached last month's figures, which showed the heaviest traffic in this commodity since April, 1921.

For the first time in the history of the Canal, tolls have exceeded the million-dollar mark for 3 consecutive months. Likewise, it is the first time that cargo tonnage through the Canal has exceeded 1,000,000 tons for 3 consecutive months.

The "Solana" Makes a New Record for Quick Discharge of Fuel Oil.

An account of the discharge of 61,366.66 barrels of fuel oil by the Texas Company's tanker *Shenandoah*, in 18 hours, or at the rate of 3,409.25 barrels per hour, was published in THE PANAMA CANAL RECORD of August 2, 1922.

This record was exceeded by the Arrow Oil Company's tanker *Solana* on September 21, 1922, when the vessel discharged 64,564.73 barrels of fuel oil in 18 hours and 15 minutes, which was at the rate of 3,537.77 barrels per hour. The *Solana* arrived at Cristobal in the forenoon of September 21; the pumps were started at 12.45 p. m.; and at 7.00 a. m., the following morning, the *Solana* was ready to sail.

In the case of both vessels the rate of discharge was cut down by the necessity of diverting one of the two pipelines leading from the dock to the plant so that it might be used for bunkering other ships. The *Shenandoah* operated through two lines 14 hours and one line 4 hours. The *Solana* pumped through two lines 15 hours and through one line 3 hours and 15 minutes.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 30, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Almelo	22	11.22	25	6.07	25	13.54	25	15.10	Dutch	Royal Netherlands W. I. Mail	440.0	62.6	19.3	Amsterdam	Guayaquil	General	2,803	9,403	6,653
Cape Ortegal	24	19.05	25	7.35	25	15.03	25	16.09	British	Lyle Shipping Co	405.0	52.0	16.0	Philadelphia	Iquique	Ballast		5,650	4,071
Walter A. Luckenbach	25	3.27	25	8.50	25	15.58	25	21.30	American	Luckenbach Line	446.5	56.1	24.6	New York	Los Angeles	General	4,700	8,785	6,567
Birmingham [1]	18	14.58	25	9.30	25	15.41			American	U. S. Navy	420.0	47.0	20.6	Port Limon	Balboa				
Laura C. Hall [2]	16	16.36	25	9.10	25	17.34	26	11.30	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	7	132	72
Orcus	25	9.52	25	10.20	25	17.34	26	15.35	American	Wessel Duval & Co. (S. B.)	380.0	53.0	13.8	New York	Chile	(?)	1,650	5,667	4,227
Pacific	25	3.52	25	11.45	25	19.16	25	20.30	American	Argonaut Steamship Co	399.9	56.6	25.11	Baltimore	Honolulu	General	8,184	6,479	4,709
Ruby [3]	20		25		25	12.40			American	E. J. Hooper				Cristobal	Gatun Lake	Ballast		1	1
No. 40 [3]			25		25	12.40			American	J. A. Walker				Cristobal	Gatun Lake	Ballast		10	10
No. 35 [3]			25		25	12.40			American	J. A. Walker				Cristobal	Gatun Lake	Ballast		10	10
No. 4892 [3]			25		25	12.40			American	J. A. Walker				Cristobal	Gatun Lake	Ballast		5	5
No. 2962 [3]			25		25	12.40			American	J. A. Walker				Cristobal	Gatun Lake	Ballast		3	3
Zenon	26	0.01	26	10.20	26	17.25	26	18.21	French	French Line	387.0	50.8	19.00	Antwerp	Vancouver	Steel, tobacco	2,370	6,982	4,934
Lake Shore	26	8.10	26	10.50	26	18.14	26	19.55	American	E. K. Wood Lumber Co	252.0	43.5	18.10	New York	San Francisco	General	2,530	2,282	1,522
Nassa	26	Noon	26	12.10	26	19.27	27	1.20	British	Anglo-Saxon Petroleum Co	412.2	53.0	25.6	Port Arthur	Shanghai	Kerosene	7,649	6,236	4,338
Benjamin Brewster	26	12.13	26	12.20	26	20.12	26	21.18	American	Standard Oil Co	411.6	53.2	22.8	Habana	Talara	Ballast		6,177	4,244
Nebraskan	26	13.20	26	13.25	26	21.29	26	22.35	American	American-Hawaiian Line	368.6	55.2	22.0	Philadelphia	Los Angeles	General	3,945	5,707	3,643
Willsolo	26	1.00	27	6.08	27	14.05	27	15.12	American	Williams Steamship Co	450.0	57.0	25.10	New York	Los Angeles	General	7,500	7,983	5,882
City of Winchester	27	12.29	27	7.15	27	15.19	27	16.05	British	Ellerman Lines	474.2	58.0	26.0	New York	Brisbane	General	9,506	8,783	6,603
Shunko Maru	27	12.15	27	8.57	27	16.22	27	15.32	Japanese	Osaka Shosen Kaisha	425.0	54.0	19.6	New York	Yokohama	General	2,808	6,914	5,296
Paul Luckenbach	27	6.02	27	9.37	27	17.30	27	18.35	American	Luckenbach Line	471.1	59.2	25.5	Philadelphia	San Francisco	General	8,500	9,027	6,672
Patuxent [4]	25	16.53	27	12.45	27	20.10			American	U. S. Navy	156.0	24.0		Cristobal	Balboa				
Salvador	19	18.20	27	13.05	27	19.18	27	22.50	British	Pacific Steam Navigation Co	225.0	35.4	15.0	Cristobal	Champerico	General	1,048	1,213	692
Woyo Maru	27	15.48	28	6.30	28	13.43	28	14.50	Japanese	Toyo Kisen Kaisha	400.0	53.0	20.0	New York	Yokohama	(8)	4,375	6,187	4,541
Santa Teresa	27	13.28	28	7.25	28	14.52	28	16.24	American	Grace Line	360.2	51.6	22.6	New York	Talcahuano	General	2,116	5,726	4,086
Rigel [5]	27	14.31	28	8.59	28	16.25	28	20.00	American	U. S. Navy	410.0	54.0	23.6	Norfolk	San Diego	Naval stores	1,000		
Seattle Maru	28	3.42	28	9.40	28	17.51	28	18.12	Japanese	Osaka Shosen Kaisha	419.7	49.5	21.6	Buenos Aires	Kobe	General	1,787	6,226	4,118
Californian [6]	29	5.30	29	8.15	29	14.46	29	15.56	American	American-Hawaiian Line	445.1	59.8	24.0	Boston	Portland	General	6,800	8,567	6,020
Cacique	27	12.05	29	9.16	29	16.25	29	17.36	American	Grace Line	394.2	52.3	20.4	Baltimore	Seattle	General	4,600	6,652	4,913
San Eduardo	29	16.33	30	6.25	30	14.08	30	15.42	British	Eagle Oil Transportation Co	419.0	54.0	26.0	Tampico	Antofagasta	Oil	7,823	6,390	4,382
Otaki	30	8.40	30	9.05	30	16.47	30	18.10	British	New Zealand Shipping Co	449.0	58.0	28.0	New York	Sydney	General, case oil	8,300	8,256	5,470
Huasco	27	15.50	30	13.00	30	19.30	30	20.28	Chilean	Chilean Line	379.0	44.0	22.5	Cristobal	Valparaiso	General	412	4,552	3,182

[1] Cruiser. [2] Motor schooner. [3] Launch. [4] Tug. [5] U. S. Navy supply ship. [6] Motor ship. [7] Cement, structural steel, and general. [8] Steel goods, machinery, rosin, sulphate of ammonia, and cotton.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Gen. O. H. Ernst	23	5.00	24	7.09	24	13.40	25	13.31	American	Panama Railroad Steamship Line	356.4	45.3	17.0	Guayaquil	New York	General	1,134	4,503	2,764
Pleiades	24	6.00	24	8.11	24	15.14	24	15.14	American	Luckenbach Line	331.5	47.0	23.0	Portland	Mobile	General	2,200	4,147	3,259
Sherman	24	12.32	24	13.38	24	.....	25	1.12	American	Chile Steamship Co	400.3	45.3	25.0	Tocopilla	Baltimore	Copper, nitrate	6,175	5,037	3,492
Lena Luckenbach	24	14.45	25	7.00	25	14.09	25	16.11	American	Luckenbach Line	425.0	53.8	26.0	Portland	New York	General, lumber	6,056	7,217	5,295
West Cherow	24	16.00	25	8.00	25	15.52	25	19.00	American	U. S. & Australian Line	409.8	54.2	24.0	Antofagasta	Colon[10]	Nitrate	7,021	6,588	4,824
Santa Elisa	25	5.00	25	8.53	25	15.16	25	19.13	American	Grace Line	366.3	51.7	23.1	Talcahuano	New York	General	3,487	5,957	4,325
Patuxent	25	.....	25	11.05	25	16.53	27	12.45	American	U. S. Navy	154.0	24.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Balboa	25	11.20	25	13.41	25	20.36	1	7.12	American	Stone & Yard	190.0	29.1	15.5	Guayaquil	Cristobal	General	395	737	335
Queen Louise	24	9.00	26	7.04	26	16.12	26	16.12	British	Cadogan Steamship Co	404.9	53.5	24.0	Los Angeles	Tampico	Ballast	.....	6,163	4,750
S-34[9]	25	18.30	26	8.16	26	16.23	.....	.....	American	U. S. Navy	220.0	20.8	20.0	Los Angeles	New London	.....	.....	.....	.....
S-35[9]	25	18.30	26	8.18	26	16.23	.....	.....	American	U. S. Navy	220.0	20.8	20.0	Los Angeles	New London	.....	.....	.....	.....
Birmingham City	25	20.22	26	8.52	26	16.55	26	16.55	American	Isthmian Lines	395.5	55.0	27.0	Seattle	Boston	General	6,600	6,841	4,686
River Trent	25	20.30	26	10.02	26	18.13	27	10.50	British	Merrett Brothers	348.8	50.5	21.3	Iquique	St. Thomas[10]	Nitrate	5,500	3,986	2,955
Toba Maru	26	9.25	26	10.55	26	18.35	27	5.05	Japanese	Nippon Yusen Kaisha	445.0	53.0	21.6	Manila	New York	General	9,803	5,825	4,132
Wabash	26	11.30	26	12.29	26	19.47	26	21.00	American	North American & West. S. S. Co.	381.0	49.9	25.0	Seattle	Portland	General, lumber	4,800	8,058	5,743
Ucayali	26	4.25	26	13.35	26	21.20	1	10.35	Peruvian	Peruvian Line	374.7	46.3	18.9	Callao	Cristobal	General	835	4,466	2,405
San Juan	26	16.30	27	7.35	27	15.00	2	6.08	American	Pacific Mail Steamship Co	283.0	37.0	15.6	San Francisco	Cristobal	General	303	2,379	1,593
Huasco	26	21.35	27	7.40	27	15.50	30	13.00	Chile	South American S. S. Co	379.0	44.0	21.0	Talcahuano	Cristobal	General	764	4,552	3,182
Henderson	25	1.00	27	9.47	27	17.11	27	17.11	American	U. S. Government	483.0	61.0	22.0	San Francisco	Hampton Rds.	Navy cargo	1	.....	.....
Chattanooga City	27	7.20	27	13.33	27	20.17	27	20.17	American	Isthmian Lines	424.2	56.2	24.0	Seattle	Boston	General	6,338	7,611	5,450
Melville Dollar	27	17.00	28	6.46	28	14.14	28	15.53	American	Dollar Line	429.0	55.2	27.0	Grays Harbor	New York	General, lumber	3,233	7,581	5,519
Sabine Sun	27	17.15	28	8.20	28	15.21	28	16.48	American	Sun Steamship Co	429.3	59.2	27.6	Los Angeles	Chester, Pa.	Oil	10,300	7,898	5,459
Berengar	28	7.50	28	8.53	28	16.35	29	6.05	British	Oakhorn Steamship Co	399.6	53.7	27.6	San Francisco	Gibraltar[10]	Barley	8,100	6,403	4,620
Mineola	28	7.50	28	9.54	28	17.15	28	22.30	American	Grace Line	298.6	40.0	20.8	Lobos de Afuera	New York	Guano	2,300	2,835	1,805
Irene S. Wilkinson	17	9.40	28	11.00	.....	.....	.....	.....	American	Howard Lumber Co	187.3	38.0	16.5	S. Miguel Bay	New Orleans	Lumber	1,200	866	730
Steel Scientist	29	8.15	29	9.00	29	15.33	29	15.33	American	Isthmian Lines	422.2	56.2	23.0	Everett	Baltimore	General, lumber	6,411	7,611	5,454
China Arrow	29	22.00	30	7.58	30	14.58	30	14.58	American	Standard Transportation Co	468.3	62.7	20.0	Manila	New York	Coconut oil	6,500	10,084	7,388
Radix	29	22.30	30	8.33	30	16.10	30	16.10	British	Anglo-Saxon Petroleum Co	411.0	56.0	29.0	Los Angeles	Curacao	Oil	9,483	7,428	5,277
Edward Luckenbach	30	11.00	30	11.59	30	18.35	1	5.25	American	Luckenbach Line	437.0	72.5	26.0	Portland	New York	General, lumber	7,365	8,543	6,426

[9] Submarine. [10] For orders. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Sept. 6	Linda S.[2]	Surgeon Brothers	Colon.
Sept. 24	Turrialba	United Fruit Co	New Orleans and Habana.
Sept. 24	Calamares	United Fruit Co	Port Limon.
Sept. 24	Quail[4]	U. S. Navy	Hampton Roads.
Sept. 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Sept. 8	Linda S.[2]	Surgeon Bros	Colon.
Sept. 24	Calamares	United Fruit Co	New York via Habana.
Sept. 25	Turrialba	United Fruit Co	Bocas del Toro.
Sept. 25	Amassia	Hamburg-American Line	Cartagena.
Sept. 27	Pastores	United Fruit Co	Port Limon.

(Continued on page 114, column 2.)

Record Traffic for Three-Month Period.

Commercial traffic through the Canal for the first quarter of the fiscal year 1923 exceeded that for any previous quarter-year in the history of the Canal. The previous high mark for a 3-month period was for the months of January, February, and March, 1921.

The following shows the number of ships, tolls collected, and tons of cargo carried, for the past 3 months, the corresponding 3-month period of last year, and the previous record for a 3-month period:

Period.	No. of ships.	Tolls.	Tons of cargo.
July, August, and September, 1922	748	$3,169,528.72	[1] 3,500,000
July, August, and September, 1921	663	2,651,885.43	2,303,149
January, February, and March, 1921	775	3,118,806.80	3,214,520

[1] Approximately. Final cargo figures for September, 1922, not yet compiled.

It will be seen that the cargo tonnage for the past 3 months is greater by 50 per cent than for the corresponding 3-month period of last year.

Shipment of Salmon from Kamchatka.

The British steamer *Myrmidon* transited the Canal on September 1, en route from the Peninsula of Kamchatka to the British Isles, laden with 141,697 cases (5,010 tons) of canned salmon. This is the first shipment of salmon to pass through the Canal from this region since October of last year.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., September 21, 1922.

The Master of the Steamship *Oranje Nassau* reports H. O. Chart No. 925 in error as below:

"The five soundings, showing 11 to 14 fathoms, adjacent to and northwest of Belillo Point, Puerto Colombia, should show 4 to 6 fathoms. Also there is a schooner ashore three-fourths of a mile northwest of Belillo Point."

M. L. WALKER,
Acting Governor.

Notice to Mariners.—Caribbean Lights in Honduras.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., September 29, 1922.

Master of German steamship *Amassia* reports as follows on Caribbean lights in Honduras:

1. Roatan Island, Lat. 16° 17′ N., Long. 86° 35′ W., flash white each 10 seconds. Light obscured from bearing N. 29° E. when approached from the west.
2. Ox-Tongue Shoal beacon, Lat. 15° 53′ N., Long 88° 41′ W., not burning.
3. Utila Island, west end, Lat. 16° 6′ 5″ N., Long. 86° 59′ 50″ W., flash 8 seconds, eclipse 10 seconds.
4. Utila Island, east end, Lat. 16 °06′ N., Long. 86° 54′ W., two flashes each 7 seconds.

M. L. WALKER,
Acting Governor.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Notice to Mariners.—Tumaco Road, Colombia.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., September 28, 1922.

Master Jas. E. Stone of the steamship *Balboa* reports:

"H. O. Chart 1540 of Tumaco Road, Colombia, is of small scale. The channel is narrow, crooked, and difficult in places, and the least deviation from the course means grounding of a steamer. La Vinda Rock is a good landmark at low water, but is covered at high tide; not easy to locate unless a sea is running causing breakers.

"There is a lighthouse in course of construction on El Moro Island, Tumaco Harbor. Elevation of site is 260 feet, tower is 40 feet, total 300 feet. Light is to be 2,500 candlepower, white flashing, intervals of flash and eclipse are not determined. Red sector covers La Vinda Rock, approximate position is Lat. 1° 50′ 30″ N, Long. 78° 44′ West."

M. L. WALKER,
Acting Governor.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending September 23, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Meltonian	Leyland Line	September 10	September 10	406	(3)
Ulua	United Fruit Co	September 10	September 10	10	50
Atenas	United Fruit Co	September 10	September 11	2½	60½
Huallaga	Peruvian Line		September 11		553
Cuba	Pacific Mail Steamship Co		September 12		1,327
Magdala	Danish East Asiatic Co	September 12	September 12	100	(3)
Amassia	Hamburg-American Line	September 12	September 12	18	39
Toloa	United Fruit Co	September 12	September 13	262	7
Ecuador	Pacific Mail Steamship Co	September 12	September 13	60	(3)
Heredia	United Fruit Co	September 12	September 14	477	(3)
Tivives	United Fruit Co	September 13	September 14	56	78
Carrillo	United Fruit Co	September 13	September 14	3	¾
Atenas	United Fruit Co	September 14	September 14	5½	94
Colon	Panama Railroad Steamship Line	September 14		1,453	
Antonio Lopez	Spanish Line	September 14	September 15	135	98½
Manavi	Pacific Steam Navigation Co	September 14		855	
Alvarado	Pacific Steam Navigation Co	September 14	September 15	170	485
Bologna	Italian Line	September 15		81	
Santa Clara	Pacific Mail Steamship Co	September 15		560½	
Essequibo	Pacific Steam Navigation Co	September 16		135	
Imperial	Chilean Line	September 16		375	
Mantaro	Peruvian Line	September 16		1,241	
Dinteldijk	Holland-American Line	September 16		184	
Laura C. Hall	Pacific Metals Corp	September 16		67½	
Essequibo	Pacific Steam Navigation Co		September 17		80
Dinteldijk	Holland-American Line		September 17		29
Toloa	United Fruit Co	September 17	September 17	81	94
Abangarez	United Fruit Co	September 17	September 18	(1)	57
Antiochia	Hamburg-American Line	September 17	September 18	18¾	(3)
Kina	Danish East Asiatic Co	September 18	September 18	94	73
Colon	Panama Railroad Steamship Line		September 19		2,019
Parismina	United Fruit Co	September 18	September 21	938	5
Imperial	Chilean Line		September 20		684
Calamares	United Fruit Co	September 19	September 20	267	213
Oranje Nassau	Royal Netherlands W. I. Mail	September 19	September 20	62	23½
Salvador	Pacific Steam Navigation Co	September 19		145	
Tivives	United Fruit Co	September 20	September 21	¼	½
Ebro	Pacific Steam Navigation Co	September 21	September 21	[2] 6	1
Solana	Pacific Mail Steamship Co	September 21		9,000	
Metapan	United Fruit Co	September 21	September 21	3	145
Abangarez	United Fruit Co	September 21	September 21	½	86
Mantaro	Peruvian Line		September 21		223
Columbia	N. O. & S. A. Steamship Line	September 22	September 23	2½	(3)
Almelo	Royal Netherlands W. I. Mail	September 22		91	
Iowa	French Line	September 22	September 22	123	102
Oranje Nassau	Royal Netherlands W. I. Mail	September 23	September 23	(1)	159½
Ares	Royal Netherlands W. I. Mail	September 23		350	

[1] No cargo discharged. [2] Packages. [3] No cargo laded.

Transfer of Sanitary Inspector's Office.

The office of the district sanitary inspector for the Ancon-Balboa district was moved from Balboa to Ancon on October 1.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending September 30, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Salvador	Pacific Steam Navigation Co.	September 19.	September 19.	10	.....
Argonne[1]	U. S. Army Transport Service.	September 20.	September 21.	1	.....
Borgland	Norway Pacific Line	September 21.	September 21.	760	24
Ansaldo San Giorgio II	Societa Nazionale di Navigazione	September 21.	September 22.	1	.....
Romulus	A. O. Lindvig	September 23.	.....	248	.....
Gen. O. H. Ernst	Panama Railroad Steamship Line	September 23.	.....	.....	260
Queen Louise	Anglo-Saxon Petroleum Co	September 24.	September 26.	7,500	.....
Sinaloa	A. O. Lindvig	September 24.	.....	534	2,263
Laura C. Hall	Pacific Metals Transportation Co.	September 25.	September 25.	.....	54
Rakuyo Maru	Toyo Kisen Kaisha	September 25.	September 26.	863	.....
San Juan	Pacific Mail Steamship Co.	September 26.	September 27.	49	.....
Salvador	Pacific Steam Navigation Co.	September 27.	September 27.	.....	8
Balboa	Johnson Line	September 29.	.....	53	.....
El Oso	Anglo-Saxon Petroleum Co	September 30.	.....	8.300	12

[1] U. S. Army transport.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended September 23:

Steamships *Olockson*, perform the quarterly pumping of bilges and trimming of ship at anchorage off Taboga Island; *Cristobal*, cast special cast iron ring pots for use by Cristobal shops in making main engine piston rings; U. S. Army mine planter *Col. George F. E. Harrison*, manufacture and install 2 piston rings for H. P. cylinder of main engine; renew rotor shaft of blower engine; rebore and overhaul boiler feed pump; make heavy general repairs to circulating pump; furnish and install new fresh water and sanitary pumps; rebore and overhaul fire pump; furnish and install hand air pump in galley for pumping air pressure on oil tank for galley range; clean, electric weld leaky rivets and seams in fresh water tanks under boilers, and cement wash.

PREVIOUSLY REPORTED.

Colombian coast guard cutter *No. 3*, general repairs to hull, machinery, and deck houses; U. S. submarine *O–16*, general running repairs and alterations; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge; repairs to damaged rudder.

The following vessels were at the Cristobal shops for repairs during the week ended September 25:

Steamship *Solana*, repair main engines, condenser, jacking engine, cargo pumps, ash chute, gauges, boilers and boiler mountings, and miscellaneous piping; scale and paint outside of hull; calk leaky rivets and seams on after bulkheads, etc.; U. S. Army mine planter *Graham*, repair L. P. piston valves; make new rings, etc.; steamships *Parismina*, weld superheater float and renew studs; make bushing for ice machine; repair piping; *Salvador*, dock, clean, and paint; weld crack in propeller blade; repair steering chains, refrigerator compressor, ship's rail, hatches, stateroom water tanks, and piping; manufacture 6 strainers for oil fuel system, 2 new hatch bars, and 3 new canvas slings; range anchor and cables in dry dock and overhaul link studs and shackle pins; rebrick galley fires; clean and paint engineer's mess room, etc.; *Almelo*, services of diver to block off stern tube to allow repacking of stern gland on inside; *Cold Harbor*, services of diver to examine bottom; *General W. C. Gorgas*, furnish 6 men with air tools for scaling as directed by mate.

Record High Tide at Balboa.

The tide which reached its maximum elevation at Balboa at approximately 5 o'clock in the morning of September 23 (predicted time, 4.54 a. m.) was the highest which has been recorded during the 14 years that a tide register has been maintained at Balboa. It reached an elevation of 11.5 feet above the zero mark on the gauge, and was

0.7 foot higher than the predicted elevation. The sea was calm and in the absence of heavy wave action the high tide did no damage. The range between the maximum elevation and the preceding low tide was 20.7 feet.

The high tidal movement is attributed to the sun and moon's coming into line, with reference to the earth, during the eclipse of the sun on September 21, and thus exerting a concerted rather than divided influence on the water. The eclipse was not visible on the Isthmus.

Executive Order.[1]

WAR DEPARTMENT,
WASHINGTON.

July 28, 1922.

By authority of The President, it is directed that in the absence or disability of both the Governor and Engineer of Maintenance of The Panama Canal the Marine Superintendent shall act as Governor of The Panama Canal.

JOHN W. WEEKS,
Secretary of War.

[1] Published as Panama Canal circular No. 601-132.

Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	Check No.	Native of—	Isthmian residence.	Employed by—	Date of death.
James Gray	38530	Jamaica	Panama	Mechanical Division	Sept. 16, 1922.
Reginald Francis	52478	Antigua	Colon	R. & F. Agent	Sept. 10, 1922.
Ernest Agard	44724	Barbados	Mount Hope	R. & F. Agent	Sept. 6, 1922.
William Minto	28467	Jamaica	Panama	Municipal Eng. Div.	Sept. 1, 1922.
Edward Farrell	25068	Montserrat	Cristobal	R. & F. Agent	Sept. 1, 1922.
William F. Jones	33015	Barbados	Panama	Commissary Division	Aug. 30, 1922.
Julio Maestre	33758	Colombia	Panama	Dredging Division	Aug. 21, 1922.

Official Publications of Interest to Shipping.

The Hydrographic Office in the Terminal Building, Cristobal, is in receipt of the following publications of the Department of Commerce or the Navy Department of the United States of interest to shipping, and offers them for sale at list prices.

Navigation Laws of the United States; Merchant Vessels of the United States; Stowage of Ships' Cargoes; List of American Commercial and Government Radio Stations; Nautical Almanac.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for $1.70 per barrel of 42 gallons.

Diesel oil is sold at $3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line).[1] The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 109.

PORT OF CRISTOBAL—continued.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
Sept. 25	Amasia	Hamburg-American Line	Hamburg via wayports.	Sept. 27	San Gil	United Fruit Co.	Boston via Limon.
Sept. 25	Cartago	United Fruit Co	New Orleans.	Sept. 28	Cartago	United Fruit Co	New Orleans and wayports.
Sept. 26	San Gil	United Fruit Co	Boston.				
Sept. 26	Isadores	United Fruit Co	New York via Habana.	Sept. 28	Turrialba	United Fruit Co.	New Orleans.
Sept. 26	Puerto Rico	French Line	St. Nazaire and wayports.	Sept. 28	Sixaola	United Fruit Co.	Colombian ports.
Sept. 27	Sixaola	United Fruit Co.	New York via Kingston.	Sept. 28	Metapan	United Fruit Co.	New York via Kingston.
Sept. 28	Turrialba	United Fruit Co	Bocas del Toro.	Sept. 28	Puerto Rico	French Line	St. Nazaire and wayports.
Sept. 28	Metapan	United Fruit Co	Colombian ports.	Sept. 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
Sept. 28	W. L. Steed	Pan-American Petroleum Co	Tampico.	Sept. 29	W. L. Steed	Pan-American Petroleum Co.	Tampico.
Sept. 29	Asian	Leyland Line	Liverpool via wayports.	Sept. 30	Merchant	Harrison Line	Liverpool.
Sept. 30	Arabia [2]	Panama Plantation Syndicate	Colon.	Sept. 30	Asian	Leyland Line	Mobile.
PORT OF BALBOA.							
Sept. 23	Regulus	A. O. Lindvig	San Francisco.	Sept. 24	Romulus	A. O. Lindvig	Valparaiso.
Sept. 24	Rakuyo Maru	Toyo Kisen Kaisha	Hongkong.	Sept. 26	Rakuyo Maru	Toyo Kisen Kaisha	Valparaiso.
Sept. 25	Sinaloa	A. O. Lindvig	San Francisco.				

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., October 11, 1922. No. 9.

September Transits Establish New Record for United States Coastwise Traffic.

With a total of 63 vessels transiting the Canal during the month of September, 1922, between United States coastwise ports, a new record was established for intercoastal traffic through the Panama Canal. The detail of this traffic was as follows:

	September, 1922.			
	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific	34	175,211	$164,208.35	162,955
Pacific to Atlantic	29	144,231	137,377.25	192,300
Totals	63	319,442	301,585.60	355,255

In net tonnage, tolls, and tons of cargo, the United States coastwise traffic during the past month was approximately 30 per cent of the total traffic passing through the Canal.

Four westbound vessels and 1 eastbound vessel included in the above coastwise traffic transited the Canal in ballast.

The large increase in the coastwise traffic over September of last year, particularly in regard to cargo tonnage, is shown by the following:

	September, 1921.			
	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific	25	134,239	$136,340.58	72,620
Pacific to Atlantic	15	88,011	83,011.64	104,642
Totals	40	222,250	219,352.22	177,262

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending October 7, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
F. H. Hillman	Standard Oil Co. of California	October 1	October 2	750	.....
Balboa	Colombian Maritime Co.	October 1	October 1	.....	602
Almagro	Pacific Steam Navigation Co.	October 1	October 1	.....	7
Acajutla	Pacific Steam Navigation Co.	October 1	October 2	1	.....
San Juan	Pacific Mail Steamship Co.	October 2	October 2	.....	2
Colombia	Pacific Mail Steamship Co.	October 2	October 3	16	.....

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 7, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Astronomer	9-30	6.10	1	6.08	1	13.46	1	15.05	British	Harrison Line	482.0	58.6	24.6	London	Vancouver	General	6,800	8,898	6,334
Balboa	9-25	20.35	1	7.12	1	14.25	1	24.00	American	Colombian Maritime Co	190.0	29.0	11.3	Cristobal	Ecuador	General	20	737	335
Almagro	9-24	14 13	1	7.30	1	14 45	1	18.30	British	McAndrews & Co	303.4	43.0	13.7	New York	Guayaquil	General	579	2,878	1,714
Theban	9-30	14.43	1	8.04	1	15.33	1	16.35	German	Kosmos Line	339.5	48.0	19.0	Hamburg	Guayaquil	General	2,764	4,094	2,924
Wonganella	1	6.05	1	8.47	1	16.52	1	18.05	British	William Crosbie & Co	360.0	48.5	22.6	Hull	San Francisco	Pig iron, coke	3,860	4,502	3,278
Ucayali	9-26	21.20	1	10.35	1	16.58	1	21.30	Peruvian	Peruvian Line	374.0	46.0	17.0	Cristobal	Guayaquil	General	469	4,466	2,405
Kronstad	1	9.43	1	10.57	1	17 57	1	18.53	Norwegian	Grefstads Rederi	313.0	46.5	14.0	Norfolk	Junin	Ballast	.....	2,963	2,070
J. N. Pew	1	11.13	1	11.32	1	18.59	1	20.20	American	Sun Co	480.5	66.0	19.0	Chester	Los Angeles	Ballast	.....	9,494	6,612
Siam[1]	9-30	20.50	1	12.20	1	19.35	1	20.35	Danish	East Asiatic Steamship Co	410.0	55.2	17.6	Copenhagen	Corral	General	2,356	7,068	5,303
F. H. Hillman	9-30	21.22	1	12.27	1	20.40	2	9.59	American	Standard Oil Co	500.0	68.0	24.3	Philadelphia	San Francisco	Gasoline	750	11,225	7,913
San Juan	9-27	15.00	2	6.08	2	13.37	2	19.35	American	Pacific Mail Steamship Co	283.0	37.0	17.19	Cristobal	San Francisco	General	1,483	2,379	1,593
Middlesex	2	1.53	2	7.24	2	14.43	3	24.00	British	Federal Steam Navigation Co	460.0	62.0	28.0	Liverpool	Auckland	General	9,305	10,600	7,614
Nevadan	2	3.35	2	8.02	2	15.27	2	16.27	American	American-Hawaiian Line	368.8	55.0	23.0	Philadelphia	Los Angeles	General	6,788	5,671	3,627
Meiyo Maru	2	6.05	2	8.47	2	16.21	3	7.41	Japanese	Toyo Kisen Kaisha	400.0	53.0	16.0	New York	Kobe	General	1,195	6,163	4,376
American	2	8.35	2	9.43	2	17.10	2	19.15	American	American-Hawaiian Line	406.8	51.0	24.6	Philadelphia	Los Angeles	General	4,000	5,988	4,226
No. 285[2]	.....	.....	2	9.00	2	15.17	.....	.....	American	U. S. Navy	.....	.....	.....	Cristobal	Balboa	.....	.....	.....	.....
Erle	2	9.05	2	12.45	2	19.45	2	20.45	Norwegian	Gorrissen & Co	400.2	53.0	21.2	Philadelphia	Yokohama	General	5,200	6,207	4,501
Canadian Conqueror	2	19.37	3	6.30	3	13.47	3	15.19	British	Canadian Govt. Merchant Marine	413.0	52.6	23.0	Montreal	Adelaide	General	4,600	5,954	4,127
Robin Adair	2	18.05	3	7.20	3	15.10	3	16.35	American	Seas Shipping Co	424.8	55.2	27.4	New York	San Diego	General, steel	8,700	7,470	5,529
Easterner	1	20.45	3	8.33	3	16.32	3	17.46	American	U. S. & A. Line (S. B.)	385.0	51.0	26.6	New York	Adelaide	General	7,000	5,945	4,561
Katrina Luckenbach	3	8.35	3	9.35	3	17.23	3	21.45	American	Luckenbach Line	446.0	56.0	27.0	New York	Los Angeles	General	6,579	8,308	6,179
Margaret Dollar	3	9 10	3	12.45	3	19.35	3	20.50	American	Dollar Line	429.0	52.0	26.1	Baltimore	Los Angeles	General	6,000	7,579	5,527
Alda	3	19 55	4	6.25	4	14.19	4	16 10	German	Roland Line	360.0	51.2	22.0	Hamburg	Corral	General	4,073	4,791	3,392
North American	3	15 41	4	6.12	4	14.40	4	16.10	British	North American Steamship Co	251.0	43.0	14.11	Mobile	Buenaventura	General, coal	900	2,444	1,571
La Paz[1]	2	16.55	4	7.20	4	15.02	4	16.27	British	Pacific Steam Navigation Co	406.0	54.0	25.2	Hull	Valparaiso	General	9,208	7,216	4,912
William Rockefeller	3	23 26	4	8.10	4	15.53	4	16.54	American	Standard Oil Co	554.9	75.3	19.10	New York	Los Angeles	Ballast	.....	14,785	10,313
City of Pekin	4	0.20	4	8.50	4	16.55	4	17.53	British	Ellerman Lines, Ltd	442.0	59.8	25.0	New York	Yokohama	General	7,390	9,048	6,846
Deerfield	4	18.09	5	6.15	5	13.52	5	15.16	American	Elder Steel Steamship Co	450.0	57.6	26.0	New York	Seattle	General	5,925	7,893	5,647
Australford	4	18.17	5	7.33	5	14.49	5	16 27	British	Australian Government	376.1	52.0	18.0	London	Fiji Island	General	731	4,718	3,359
Steel Engineer	4	15.40	5	8.09	5	15.33	5	16.43	American	United States Steel Products Co	441.0	58.0	26.5	Baltimore	Seattle	General	8,583	7,611	5,450
Nebraska	4	20.09	5	8.48	5	16.33	5	17.35	British	Royal Mail Steam Packet Co	450.0	58.0	18.10	London	Seattle	Ballast	.....	8,878	6,588
Florence Luckenbach	5	6 00	5	9 25	5	17.15	5	18.10	American	Luckenbach Line	401.8	52.0	25.6	New Orleans	Los Angeles	General	6,900	6,002	4,621

[1] Motor ship.

[2] Subchaser.

William G. Warden	4	22.50	5	12.35	5	19.38	5	20.50	American	Standard Oil Co.	500.0	68.0	19.9	New York	Los Angeles	Ballast		10,503	8,409
Pioneer [3]	5	15.12	6	6.05	6	13.20			American	U. S. Government	187.0	35.0	12.2	Norfolk	San Diego				
Capetown [4]	6	6.00	6	7.27	6	14.57	7	14.19	British	British Government	451.0	43.0	16.0	Bermuda	La Libertad				
Bratsberg	5	22.20	6	8.45	6	16.28	6	17.25	Norwegian	Aktieselskabet Borgestad	345.0	49.6	15.0	New Orleans	Yokohama	Rosin	510	4,263	3,042
Mariner [5]	5	21.30	6	9.30	6	18.05			American	L. A. Norris Co.	93.0	23.8	14.0	Gloucester	Tahiti	Ballast		95	44
Peursum	5	19.45	6	10.44	6	17.10	7	13.43	Dutch	Vinke & Co.	281.0	40.0	15.8	Amsterdam	Talcahuano	General	950	2,713	1,867
Cayuca No.2072	5		6		6	9.21			Panaman	A. Sardie				Cristobal	Gatun Lake	Unknown		3	3
Bermuda	6	13.55	7	6.15	7	14.02	7	15.10	British	H. M. H. Namazee	469.4	56.2	18.5	New York	Hongkong	Ballast		9,044	6,928
Mystic	6	16.10	7	7.20	7	14.27	7	15.27	American	United American Lines	400.7	54.2	19.9	New Orleans	Los Angeles	General	4,524	6,623	4,625
Tainui	7	0.23	7	8.40	7	15.35	8	0.50	British	Shaw, Savill & Albion Co.	477.8	61.1	26.5	London	Wellington	General	6,660	10,631	7,606
Adrien Badin [5]	6	21.22	7	12.35	8	13.42			French	Compagnie Navale del Oceanie	297.0	44.0	19.0	Dunkirk	New Calidonia	Coke	1,228		

[3] Survey ship. [4] Cruiser. [5] Motor schooner.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Balboa [6]	9-28	23.15	1	7.11	1	15.38	1	17.45	Swedish	Johnson Line	427.0	56.2	27.6	Tacoma	Stockholm	General	7,475	7,480	5,533
Paita	1	7.00	1	8.19	1	17.00	1	22.11	Peruvian	Peruvian Line	380.0	48.2	27.3	Callao	Liverpool	Sugar	5,683	4,867	3,544
El Oso	9-30	14.00	1	10.00	1	17.30	2	7.58	British	Lobitos Oil Fields, Ltd.	440.5	57.5	26.0	San Pedro	Tampico	Ballast		7,478	4,964
Tenpaisan Maru	1	16.15	2	7.07	2	14.00	2	17.30	Japanese	Northern Grain Warehouse Co.	380.6	53.6	25.5	Portland	Colon [8]	Wheat	6,598	5,554	3,614
Acajutla	1	20.40	2	8.08	2	14.48			British	Pacific Steam Navigation Co.	215.7	33.5	13.5	San Jose	Cristobal	General	225	1,273	706
Eastern Knight	1	23.20	2	8.28	2	16.40	2	19.20	American	Barber Line	415.1	58.7	25.6	Yokohama	Philadelphia	General	9,998	7,643	5,657
Swifstar	2	4.00	2	9.32	2	17.48	2	17.48	American	C. O. Mallory	465.0	61.0	27.6	Wellington	Fall River	Oil	10,132	8,473	6,050
Minnesotan	2	11.00	2	11.43	2	18.49	2	18.49	American	United American Lines	408.0	53.7	27.0	Seattle	New York	General	7,300	7,150	4,913
Mississippi	2	20.00	3	8.16	3	16.11	3	19.50	French	French Line	410.0	52.4	27.0	San Francisco	Bordeaux	General	7,000	6,942	5,001
Rotarian	3	8.30	3	9.25	3	16.51	4	0.53	American	Wessel, Duval & Co.	380.3	53.1	23.8	Antofagasta	New York	Nitrate	6,394	5,660	4,174
Colombia	2	19.48	3	12.43	3	19.45	5	0.15	American	Pacific Mail Steamship Co.	380.0	48.7	21.9	San Francisco	Baltimore	General	2,514	6,015	4,281
Tong King [6]	3	12.44	3	13.20	3	20.51	3	22.25	Danish	East Asiatic Co.	410.0	55.2	26.5	San Francisco	Antwerp	Grain, general	8,100	7,013	5,317
Centurion	3	17.15	4	7.03	4	14.35	4	16.55	British	T. J. Harrison	400.5	52.0	24.6	Vancouver	Liverpool	General	6,300	5,738	4,161
City of Rangoon	4	2.15	4	7.59	4	15.45	4	18.45	British	Ellerman & Bucknell	443.0	55.0	28.0	Vancouver	Leith	General	9,115	7,940	6,061
Tokufuku Maru	3	0.15	4	9.47	4	17.12	4	17.55	Japanese	Kokusai Kisen Kaisha	385.0	51.4	27.0	Portland	Cristobal [8]	Wheat	7,650	5,950	4,460
Anniston City	4	5.00	4	11.55	4	19.17	4	19.18	American	Isthmian Steamship Co.	424.2	56.2	27.0	Portland	Liverpool	General	7,890	7,611	5,450
Jacob Luckenbach	5	11.15	5	7.14	5	13.51	5	13.51	American	Luckenbach Line	414.5	56.7	27.0	Portland	New Orleans	General	5,821	7,315	5,270
No. 285 [7]	5	12.10	5	13.40	5	19.08			American	U. S. Navy	110.0	16.0		Pearl Islands	Cristobal				
Albert Jeffress	5	15.00	6	6.56	6	14.00	6	14.00	American	Garland Steamship Co.	384.8	51.2	22.0	San Francisco	New York	General	7,000	6,346	4,453
Canadian Planter	5	15.00	6	7.53	6	15.00	6	15.00	British	Canadian Government	400.3	53.0	20.0	Brisbane	Montreal	General	2,680	5,842	4,092
Birmingham [6]			6	9.10	6	15.50	7	9.25	American	U. S. Navy	420.0	47.0	19.0	Balboa	New Orleans				
Julia Luckenbach	5	17.00	6	9.30	6	17.00	6	17.00	American	Luckenbach Line	437.0	57.0	28.0	Portland	Boston	General, lumber	8,000	8,543	6,402
Huftero	5	18.00	6	11.15	6	18.47	6	18.47	Norwegian	Henrick Ostervold	380.3	52.1	21.11	Vancouver	New York	Lumber, shingles	3,500	5,517	3,937
Patuxent [7]			6	11.22	6	18.42			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
Benjamin Brewster	5	24.00	6	11.41	6	19.03	6	19.51	American	International Petroleum Co.	411.6	53.2	25.0	Talara	Havana	Ballast		6,177	4,244
Ruysdale	5	22.00	6	12.30	6	20.34	6	20.34	British	F. Bolton & Co.	402.0	51.0	23.0	Caleta Buena	Alexandria	Nitrate	6,800	5,197	3,734

[6] Cruiser. [7] Tug. [8] For orders.

MOVEMENTS OF OCEAN VESSELS—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kennecott	5	11.15	6	13.48	6	21.37	6	21.37	American	Williams Steamship Co.	345.0	49.6	22.0	Seattle	New York	General, lumber.	4,419	4,593	3,381
Oreoma	7	3.00	7	7.58	7	15.19	7	19.19	British	Pacific Steam Navigation Co.	511.6	62.2	27.0	Coronel	Liverpool	General	6,028	12,267	7,942
Taketoyo Maru	7	7.30	7	8.52	7	16.02	7	18.40	Japanese	Nippon Yusen Kaisha	445.0	58.0	24.0	Kobe	Liverpool	Salmon	7,971	7,596	5,456
Steel Maker	7	8.00	7	9.54	7	17.12	7	17.12	American	Isthmian Steamship Lines	395.0	55.0	23.10	Everett	Baltimore	Lumber	6,590	7,285	5,256
Santa Malta	7	9.55	7	10.35	7	18.15	7	18.15	American	Pacific Mail Steamship Co.	404.6	53.9	28.2	Puget Sound	New York	General	7,000	6,766	4,809
West Jappa	7	9.32	7	11.25	7	19.18	7	19.55	American	Swayne & Hoyt	410.5	54.2	17.0	Portland	Buenos Aires	General	2,300	6,755	4,873

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Oct. 1	Atenas	United Fruit Co.	New Orleans via Habana.
Oct. 1	Pastores	United Fruit Co.	Port Limon.
Oct. 2	Heredia	United Fruit Co.	New Orleans.
Oct. 3	Ulua	United Fruit Co.	New York via Habana.
Oct. 3	San Benito	United Fruit Co.	Boston via Habana.
Oct. 3	Panama	Panama Railroad Steamship Line.	New York via Haiti.
Oct. 4	St. Mihiel[9]	U. S. Army	New York.
Oct. 4	Cristobal	Panama Railroad Steamship Line.	Norfolk.
Oct. 5	Sixaola	United Fruit Co.	Colombian ports.
Oct. 5	Carrillo	United Fruit Co.	New York via Kingston.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Oct. 1	Pastores	United Fruit Co.	New York via Habana.
Oct. 2	Atenas	United Fruit Co.	New Orleans via Bocas.
Oct. 2	Solana	Pacific Mail Steamship Co.	Tampico.
Oct. 3	San Benito	United Fruit Co.	Boston via Limon.
Oct. 4	Ulua	United Fruit Co.	Port Limon.
Oct. 5	Heredia	United Fruit Co.	New Orleans and way-ports.
Oct. 5	Sixaola	United Fruit Co.	New York via Kingston.
Oct. 5	Carrillo	United Fruit Co.	Colombian ports.
Oct. 7	St. Mihiel[9]	U. S. Army	New York via San Juan.

[9] Transport.

PORT OF BALBOA.

.....	.....	.....	.....

Oct. 2	Sinaloa	A. O. Lindvig	San Francisco.

* Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in September, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States Coastwise:							*Long tons.*
United States	34	139,479	175,211	218,233	136,164	$164,208.35	162,955
From east coast of United States to Far East:							
British	9	37,027	44,971	55,711	33,980	46,283.75	65,370
Japanese	6	25,404	28,643	37,069	24,926	31,334.35	25,311
United States	4	16,103	22,096	24,855	16,012	20,128.75	27,802
Totals	19	78,534	95,710	117,635	74,918	97,746.85	118,483
From Europe to west coast of United States:							
British	6	21,778	27,271	35,010	21,731	21,491.39	11,621
United States	1	4,927	6,020	7,899	4,927	6,158.75	6,806
French	2	7,485	10,004	12,177	7,467	9,356.25	3,820
Japanese	1	3,928	4,522	6,515	3,847	3,255.84	.....
Norway	1	3,003	3,886	4,894	3,054	3,753.75	3,860
Danish	1	2,985	4,618	4,750	3,006	3,731.25	4,666
Swedish	1	2,850	4,567	4,875	3,677	3,562.50	7,230
Totals	13	46,956	60,888	76,120	47,709	51,309.73	38,003
From east coast of United States to west coast of South America:							
United States	8	24,324	29,297	39,915	24,101	26,312.08	10,246
British	5	13,734	17,675	23,132	14,211	15,247.49	6,410
Dutch	1	1,320	1,521	2,009	1,203	1,650.00	1,130
Totals	14	39,378	48,493	65,056	39,515	43,209.57	17,786
From Europe to west coast of South America:							
German	3	10,834	12,991	17,386	10,995	13,542.50	12,353
Dutch	2	6,996	11,046	11,267	7,143	8,745.00	4,128
Italian	2	6,071	8,083	10,169	5,877	7,588.75	1,588
British	1	5,081	5,099	5,391	3,475	6,118.80	4,975
United States	1	4,472	6,457	7,035	4,390	4,649.04	.....
French	1	4,368	4,369	5,248	3,329	5,242.80	266
Danish	1	2,202	3,384	3,515	2,202	2,752.50	4,622
Totals	11	40,024	51,429	60,011	37,411	48,639.39	27,932
From east coast of United States to Australasia:							
British	6	26,218	35,588	42,042	26,275	32,772.50	33,910
United States	1	3,604	4,480	5,816	3,604	4,505.00	6,740
Totals	7	29,822	40,068	47,858	29,879	37,277.50	40,650
From Cristobal to west coast of South America:							
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,756
Peruvian	2	2,719	5,345	9,020	4,517	3,398.75	735
United States	1	334	335	615	373	402.00	42
British	1	63	72	111	100	78.75	7
Totals	7	7,665	13,667	18,826	10,495	9,565.75	2,540
From Europe to Australasia:							
British	4	23,480	29,648	36,117	23,871	29,296.45	18,045
French	1	2,309	3,046	3,647	2,356	2,886.25	2,460
Totals	5	25,789	32,694	39,764	26,227	32,182.70	20,505
From Europe to west coast of Canada:							
British	2	8,810	11,468	14,007	8,689	11,012.50	6,907
Dutch	1	5,776	7,551	9,399	5,814	7,220.00	4,815
United States	1	4,044	5,002	6,547	4,053	5,055.00	4,978
Totals	4	18,630	24,021	29,953	18,556	23,287.50	16,700
Foreign ships in ballast between United States coastwise ports:							
British	2	9,028	10,274	11,532	7,134	10,087.59	.....
From Cristobal to west coast of Central America:							
British	2	1,288	1,398	2,298	1,304	1,610.00	1,718
From east coast of Mexico to west coast of South America:							
British	1	3,878	4,382	6,225	3,959	4,847.50	7,823

ATLANTIC TO PACIFIC—Continued.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From east coast of South America to Far East:							*Long tons.*
Japanese	1	3,677	4,118	5,853	3,621	$4,596.25	1,787
From West Indies to west coast of South America:							
United States	1	3,649	4,244	5,950	3,677	3,055.68	.....
From east coast of South America to west coast of United States:							
United States	1	3,537	4,901	5,657	3,537	4,421.25	5,709
From West Indies to west coast of United States:							
British	1	3,486	4,300	5,834	3,460	3,096.00	.....
From east coast of Canada to Australasia:							
British	1	2,951	3,441	4,452	2,884	3,688.75	3,782
From Cristobal to west coast of United States:							
United States	1	1,862	2,206	3,169	1,862	2,327.50	1,463
From Europe to west coast of Central America:							
British	1	733	971	1,468	897	699.12	.....
Totals, September, 1922	126	460,366	582,416	725,894	453,209	545,856.98	467,836
Totals, August, 1922	141	480,579	611,862	765,642	478,744	576,958.32	556,761
Totals, September, 1921	128	434,250	530,634	669,087	427,395	513,793.61	300,720

PACIFIC TO ATLANTIC.

United States coastwise:							*Long tons.*
United States	29	110,955	144,231	174,474	111,889	$137,377.25	192,300
From west coast of South America to east coast of United States:							
United States	10	28,056	33,996	45,303	27,898	34,731.40	54,997
British	4	20,525	25,760	33,423	20,560	25,656.25	39,038
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,625
Danish	1	3,036	3,106	3,851	2,355	3,727.20	5,913
Swedish	1	1,349	1,458	2,316	1,630	1,686.25	2,720
Totals	17	56,980	69,217	91,279	56,510	70,818.60	111,293
From west coast of United States to Europe:							
British	8	33,384	39,972	50,243	33,717	41,425.35	64,132
United States	2	11,441	12,990	16,433	11,424	14,301.25	17,929
Norwegian	2	6,969	8,242	9,544	6,654	8,711.25	12,711
Japanese	1	4,357	4,399	5,860	4,259	5,278.80	7,236
Danish	1	3,368	5,263	5,497	3,425	4,210.00	9,451
Swedish	1	3,129	5,122	5,293	4,046	3,911.25	7,829
Totals	15	62,648	75,988	92,870	63,525	77,837.90	119,288
From west coast of South America to Europe:							
British	5	15,661	20,702	25,712	15,523	19,576.25	28,522
German	2	6,449	8,104	10,325	6,534	8,061.25	11,926
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	8,030
Italian	1	3,331	4,287	5,850	3,646	4,163.75	7,336
Danish	1	3,268	5,338	5,259	3,301	4,085.00	8,392
Totals	11	32,801	44,709	53,779	33,046	41,001.25	64,206
From west coast of South America to Cristobal:							
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,439
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	3,597
United States	2	668	670	1,230	746	804.00	983
British	2	612	956	1,152	715	765.00	922
Totals	10	9,537	17,291	23,787	12,997	11,890.25	6,941
From Far East to east coast of United States:							
United States	2	10,329	13,681	16,558	10,328	12,911.25	15,719
Japanese	2	8,827	10,914	14,143	8,656	11,033.75	18,388
Norwegian	1	4,043	5,051	6,564	4,046	5,053.75	9,012
Totals	5	23,199	29,646	37,265	23,030	28,998.75	43,119

PACIFIC TO ATLANTIC—Continued.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of Canada to Europe:							*Long tons.*
British	3	12,628	17,016	20,283	12,708	$15,785.00	23,762
United States	1	3,822	5,256	6,188	3,822	4,777.50	6,931
Totals	4	16,450	22,272	26,471	16,530	20,562.50	30,693
From Australasia to Europe:							
British	3	12,115	14,871	19,178	12,103	15,143.75	17,981
Swedish	1	2,622	4,035	4,315	3,329	3,277.50	5,125
Totals	4	14,737	18,906	23,493	15,432	18,421.25	23,106
From west coast of Canada to east coast of United States:							
United States	2	7,784	10,969	12,719	7,769	9,730.00	14,388
Norwegian	1	4,720	4,752	5,268	3,252	5,900.00	5,291
Totals	3	12,504	15,721	17,987	11,021	15,630.00	19,679
From west coast of United States to West Indies:							
British	2	7,737	9,577	12,686	7,427	9,671.25	16,883
From west coast of United States to east coast of Mexico:							
Spanish	1	2,686	2,957	4,454	2,681	3,357.50	6,050
British	2	5,937	7,911	9,041	5,344	5,695.92	.....
Totals	3	8,623	10,868	13,495	8,025	9,053.42	6,050
From west coast of South America to Egypt:							
British	1	3,123	3,180	3,567	2,253	3,816.00	6,000
Danish	1	1,754	2,166	2,925	1,748	2,192.50	4,150
Totals	2	4,877	5,346	6,492	4,001	6,008.50	10,150
From west coast of United States to Cristobal:							
United States	2	3,194	3,799	5,322	3,171	3,992.50	1,079
From Australasia to east coast of United States:							
United States	1	4,414	4,442	5,870	4,414	5,330.40	3,000
From west coast of South America to West Indies:							
United States	1	3,649	4,244	5,950	3,677	4,561.25	7,300
From Australasia to east coast of Canada:							
British	1	3,502	4,103	5,492	3,342	4,377.50	3,017
From Far East to Europe:							
British	1	3,030	3,257	4,965	3,063	3,787.50	5,010
From west coast of South America to West Indies:[1]							
British	1	2,541	2,955	3,584	2,268	3,176.25	5,500
From west coast of Central America to east coast of United States:							
United States	1	719	730	818	708	898.75	1,272
From west coast of Central America to Cristobal:							
British	1	650	692	1,128	650	812.50	466
Totals, September, 1922	114	382,747	487,994	607,207	384,726	474,207.57	670,352
Totals, August, 1922	116	377,346	472,271	593,275	374,468	478,378.43	609,189
Totals, September, 1921	93	314,494	394,503	498,133	316,179	378,207.93	454,174

[1] For orders.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended October 7:

Schooner *Mariner*, renew 2 shrouds and chain plates for anchor; tug *Gorgona*, drydock tug for repairs to hull; repair bow slightly damaged in collision; renew approximately 76 feet of bad fender on starboard side and 16 feet on port side, with new style fender angles; stage, clean and wire-brush under-water surface; paint bottom 2 coats of anti-corrosive and 1 coat of anti-fouling paint; repair rails, overhaul 4 sea valves; install 4 hull zincs; weld 6 cracks in propellor blades; make

general running repairs to main engine, steering engine, feed pump, air pump; renew about 80 per cent of sanitary line; and manufacture and install inspection tank on oil heater drains; barge *No. 136*, drydock barge for annual repairs; stage, clean and wire-brush under-water surface; paint bottom 1 coat of red lead and zinc, and 1 coat of anti-fouling; test tanks and caulk leaks; install 1 patch on deck; fair and renew top angles of hatch coaming; install 1 new bitt; overhaul bearings of winding machinery; repair and renew 5 rake fenders as required.

PREVIOUSLY REPORTED.

Colombian coast guard cutter *No. 3*, general repairs to hull, machinery and deck houses; U. S. submarine *O–16*, general running repairs and alterations; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge; repairs to damaged rudder.

The following vessels were at the Cristobal shops for repairs during the week ended September 25:

Schooner *Arabia*, drydocked, scraped hull and repaired leak in stern, etc.; tug *Porto Bello*, drydocked, cleaned and painted bottom; repair boilers, bell pulls, sanitary pump, piping, etc.; overhaul steering engine crosshead brasses, exhaust valves from main fire pumps, valve motion of main circulating pump; renew zincs and strainers on hull, renew valve stem on manifold and fit new throttle valve, etc.; steamship *Acajutla*, docked, cleaned and painted bottom; repaired windlass exhaust pipe, refrigerator, sanitary service pipe, rudder pintles, hatches, lifeboat and galley utensils; made deck over officer's quarters tight and made sun deck portable, etc.; tug *Supply No. 1*, docked, cleaned and painted; examined tail shaft bearing; repaired circulating water pipe, and circulating water pump on main engine; install 3 new cylinders on main engine; make and install new piston rings on 3 pistons, main engine; overhaul piston wrist pins and bearings, and all main bearings and connecting rods, etc.; steamships *Venezuela*, repair galley oven; *Heredia*, make compression rings for safety valves; *Cristobal*, machine 6 snap rings for port H. P. piston; manufacture pipe for sanitary line; repair piping and brick in galley oven, etc.; *Advance*, repair drain pipe in No. 3 hold, dead light in forecastle head, bulwark side plating on starboard quarter, upper section main deck port and leaky valve in fire line at No. 3 hatch; manufacture studs as sketch, etc.

Notice to Mariners.—Roncador Bank Light, Caribbean Sea.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 7, 1922.

The present characteristics of the Roncador Bank Light are:
Flashing white, period 5 seconds. Flash 0.5 seconds, eclipse 4.5 seconds.
On or about November 1, 1922, these characteristics are to be changed to:
Flash white, period 10 seconds. Flash 1 second, eclipse 9 seconds.
No other change. Location, Lat. 13° 34′ North, Long. 80° 04′ West.

M. L. WALKER,
Acting Governor.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Arrive Port-au-Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port-au-Prince.	Arrive New York.
Colon	October 5	October 10	October 13	October 20	October 23	October 27.
Gen. W. C. Gorgas	October 14	October 19	October 22	October 30	November 2	November 7.
Panama	October 25	October 30	November 2	November 10	November 13	November 17.
Colon	November 4	November 9	November 12	November 20	November 23	November 27.
Gen. W. C. Gorgas	November 15	November 21	November 24	November 29	December 2	December 7.
Panama	November 25	November 30	December 3	December 9	December 12	December 16.

FROM NORFOLK.

Steamer.	Leave Norfolk.	Arrive Cristobal.	Leave Cristobal.	Arrive Norfolk.
Cristobal	October 19	October 25	October 29	November 4.
Cristobal	November 9	November 15	November 20	November 26.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., October 18, 1922. No. 10.

Record Established in Towing Pipeline Suction Dredge.

The Panama Canal has sold the 20-inch pipeline suction dredge *No. 84* to a contracting company, and has delivered it to Cartagena, Colombia, where it is to be used in deepening a channel to the Magdalena River.

The dredge was towed from Cristobal to Cartagena, a distance of 281 miles, by the Panama Canal tug *Tavernilla*, without being knocked down or otherwise dismantled, and arrived at Cartagena with steam up in one boiler, ready to go to work. The dredge is 124 feet in length by 36½ feet beam, built on a rectangular hull, with a superstructure of two stories, the crew being quartered and subsisted on the upper story. The depth of the hull is 9 feet, and the draft about 4 feet. In preparation for towing the sides were boxed in, at Cristobal shops. The tug used a towing hawser of 1,000 feet. The time of towing was about 43 hours, to reach the breakwater at Cartagena, and 8 hours later delivery had been completed and the tug was on her way back to Cristobal. The return was made in 26 hours. Good weather was encountered throughout.

The towing of a vessel of the type of the dredge, for such distance in the open sea, without dismantling any of the equipment or structure, is said to be something that was never accomplished before.

"Tavernilla's" Tow of "Willpolo" Longest Recorded in Salvage Cases.

In the findings in the arbitration of salvage payment to be made for the services of the Panama Canal tug *Tavernilla*, in towing the steamship *Willpolo* from a point about 700 miles north of Balboa to Los Angeles, last April, it was brought out that the length of the tow was 1,940 miles, "which is a longer towage than is involved in any reported salvage decision."

Munson Line Coastwise Service.

The steamship *Munaires* of the Munson Line made the transit of the Canal on October 15, carrying 2,500 tons of general cargo from Philadelphia, Baltimore, and Norfolk, for discharge at San Diego, Los Angeles, and San Francisco.

This was the fifth passage of the *Munaires* through the Canal, but this voyage is said to be the first in the opening of a fairly regular coastwise service by the Munson Line. Other Munson Line steamers reported to have been assigned to the coastwise line are the *Mundelta*, the *Munindies*, and the *Munrio*.

Large Shipment of Fresh Grapes.

The motor ship *Kennecott*, engaged in the United States intercoastal trade, and operated by the Williams Steamship Company, transited the Canal on October 6 carrying 4,419½ tons of merchandise, among which were 143¼ tons of fresh grapes, laden at San Francisco for discharge at New York. Lumber, copper bars, hemp, and canned goods completed the cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 14, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Advance	5	18.35	8	6.10	8	13.49	8	14.55	American	Panama Railroad Steamship Line	295.0	38.5	19.6	New York	Guayaquil	General	718	2,947	2,113
H. H. Asquith	7	21.09	8	7.37	8	14 41	8	15.49	British	Williams and Mordey	390.0	52.5	13.6	Baltimore	Tocopilla	Ballast		5,692	3,819
Sylvan Arrow	8	0.08	8	8.45	8	16.00	8	17.23	American	Standard Transportation Co	467.0	62.7	27.0	Beaumont	Shanghai	Oil	11,400	9,931	7,095
Vindeggen	8	7.00	8	9.35	8	16 45	8	17.55	Norwegian	Jens Folkmans	330.8	46.0	17.0	New York	Antofagasta	General	2,000	3,517	2,268
Pear Branch	8	6.15	8	10.45	8	17 26	8	18 20	British	F. and W. Ritson	398.6	53.8	23.2	Liverpool	Valparaiso	General	5,496	5,760	3,866
Woodfield	8	8.35	8	11 05	8	18 31	8	19.45	British	Woodfield Steamship Co	400.0	53.0	22.9	New York	Manila, P. I.	General	5,993	5,798	4,118
Ecuador	8	0.50	8	12.45	8	19.20	9	0.35	American	Pacific Mail Steamship Co	380.0	48.7	23.2	New York	San Francisco	General	2,569	5,926	4,178
G. Harrison Smith	8	14 05	9	6.20	9	14 48	9	17.36	British	International Petroleum Co	550.6	72.0	21.0	New York	Cruz Grande	Ballast		15,476	11,102
Port Denison	9	2 47	9	7.28	9	14.58	9	16.53	British	Commonwealth & Dom. Line	480.0	60.0	23.0	London	Wellington	General	4,300	10,595	8,028
Willfaro	9	6.05	9	8.40	9	16 43	9	18.05	American	Williams Steamship Co	386.8	52.2	23.6	New York	Seattle	General, steel	5,625	5,680	4,162
O-14[1]			9	9.00	9	16.36			American	U. S. Navy				Cristobal	Balboa				
Patrick Henry	9	9 25	9	9.30	9	17 26	9	23.40	American	Tampa Interocean S.S. Co. (S. B.)	439.6	60.2	19.0	New Orleans	Manila, P. I	Gen., oil. cotton.	4,178	8,987	6,612
Wm. A. McKenny	9	3.15	9	10.20	9	18 21	9	19.30	American	Crowell & Thurlow	395.0	55.1	23.2	New York	Seattle	General	4,350¼	6.532	4,523
Panaman	9	5 47	9	11.15	9	19 02	9	19.30	American	American-Hawaiian Line	407.7	53.0	23.0	Philadelphia	Tacoma	General	5,195	7,098	5,029
Discover[2]	8	21 59	9	13.05	9	19.40	12	19.04	American	U. S. Government	180.0	34.0	12.8	Norfolk	San Diego				
Denver[3]	9	10.12	10	6.25	10	13.39			American	U. S. Navy	292.0	44.0	17.6	Guantanamo	Balboa				
Phyllis[4]	7	11 05	10	7.00	10	16 48	10	19 00	American	Pen Transit Navigation Co	278.0	41.9	22.0	Pensacola	Honolulu	Cast iron pipe	3,092	2,295	2,130
F. J. Luckenbach	10	1.55	10	8.37	10	17.17	10	18 15	American	Luckenbach Line	446.0	56.0	26.0	New York	Seattle	General	5,500	8,508	6,179
Radix	10	7 20	10	9.10	10	18 07	10	19.39	British	Anglo-Saxon Petroleum Co	412.0	56.0	20.0	Curacao	Los Angeles.	Ballast		7,428	5,277
Durban Maru	10	12.32	10	12.55	10	19 43	10	21 05	Japanese	Nippon Yusen Kaisha	420.0	56.0	28.0	New York	Itosaki	Petroleum	8,461	7,415	5,345
John D. Archbold	10	14.58	11	6.27	11	13.51	11	15.15	American	Standard Oil Co	570.0	75.3	24.0	New York	Los Angeles	Ballast		14,785	10,313
Jason	10	12.05	11	7.30	11	14.41	11	23.15	Dutch	Royal Netherlands W. I. Mail	346.7	48.3	15.6	Hamburg	Guayaquil	General	1,464	4,321	3,120
Cardiganshire	10	2.29	11	11.48	11	18.47	11	20.17	British	Royal Mail Steam Packet Co	500.0	62.0	21.7	Hamburg	Vancouver	General, glass	2,318	11,420	8,385
Nitro[5]	11	16.00	12	6.38	12	13.45	14	13.20	American	U. S. Navy	459.8	61.6	22.2	Norfolk	San Diego	Naval stores	2,800		
Cowanshannock	11	19.15	12	7.40	12	15.33	12	16.50	American	Bethlehem Shipbuilding Corp	253.0	43.0	23.5	Philadelphia	San Francisco	General	2,575	2,936	1,729
Santa Ana	11	18.45	12	8.10	12	14.48	12	17.18	American	Grace Line	360.2	51.6	22.7	New York	Salaverry	General	1,679	5,776	4,081
Indian City	12	6.55	12	9.00	12	16.14	12	17.37	British	St. Just Steamship Co	411.3	54.5	27.0	Cardiff	San Francisco	Coal	8,599	6,512	4,665
Datchet	12	7.40	12	9.25	12	16 59	12	18.30	British	Watts, Watts & Co	323.0	47.2	18.0	Newport News	Tocopilla	Ballast		3,418	2,442
Urubamba	8	22.20	12	10.45	12	17.19	12	20.01	Peruvian	Peruvian Line	381.2	46.1	18.10	Cristobal	Callao	General	456	4,803	2,951
Aysen	9	13.50	12	11.20	12	18.04	12	19.04	Chilean	Chilean Line	379.6	44.3	21.1	Cristobal	Valparaiso	General	553	4,535	3,068
Orita	11	15.21	12	11 54	12	18.41	12	20.53	British	Pacific Steam Navigation Co	485.4	52.2	23.6	Liverpool	Valparaiso	General	1,223	9,936	6,561
Acajutla	2	14.45	12	13 03	12	19.22	13	11.30	British	Pacific Steam Navigation Co	215.7	33.5	15 3	Cristobal	Champerico.	General	822	1,273	706
Patrician[6]	12	13.40	12	13 45	12	19 00	13	20.33	British	Canadian Government	270.0	27.0	10 6	Halifax	Vancouver				

[1] Submarine. [2] Coast Guard cutter. [3] Cruiser. [4] Bark. [5] Supply ship. [6] Destroyer.

Chertsey	12	16.00	13	6.24	13	13.52	13	15.17	British	Watts, Watts & Co	355.1	45.0	14.0	Sears Port	Tocopilla	Ballast		4,009	2,948
El Cicuta	12	16.13	13	6.30	13	14.27	....	....	American	Los Angeles D. D. S. B. Co	253.0	43.5	24.8	Galveston	San Francisco	Sulphur, mach	3,302	2,676	1,490
Santa Rosa	12	22.50	13	7.30	13	15.37	13	16.50	American	Grace Line	404.6	54.0	15.0	New York	Taltal	Ballast	....	6,754	4,780
Terrier	13	4.30	13	8.35	13	16.50	13	18.20	Norwegian	W. Wilhelmsen	400.0	52.0	17.0	Charleston	Antofagasta	Machinery	386	5,639	4,161
San Tiburcio	14	7.57	14	8.22	14	16.51	14	17.55	British	Eagle Oil Transportation Co	413.0	53.4	25.0	Tampico	Valparaiso	Kerosene, naph'a	7,536	6,272	4,343
Pennsylvanian	14	9.15	14	12.35	14	19.18	14	20.20	American	American-Hawaiian Line	407.7	53.7	22.8	Hamburg	Los Angeles	General	5,000	7,107	4,916

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Murla	7	22.00	8	7.50	8	15.00	8	16.37	German	Roland Line	269.0	42.0	13.0	Punta Arenas	Hamburg	Wood	425	2,188	1,361
Ardmore	8	0.30	8	8.42	8	16.49	8	16.49	American	Standard Oil Co	449.5	59.6	26.5	Talara	New York	Oil	10,601	8,612	6,457
Ansgir	8	10.45	8	12.30	8	20.30	8	21.10	German	Roland Line	393.0	54.0	25.0	Manta	Hamburg	General	6,675	6,542	4,532
Eastern Moon	8	12.20	8	13.16	8	21.45	8	21.46	American	U. S. & Australia Line	384.8	51.2	27.0	Mejillones	New Orleans	Nitrate	7,528	5,904	4,321
Urubamba	8	4.50	8	14.45	8	22.20	12	10.45	Peruvian	Peruvian Line	381.2	41.1	19.6	Callao	Cristobal	General	1,586	4,803	2,951
Aysen	8	17.00	9	7.07	9	13.50	12	11.20	Chilean	Chilean Line	379.6	44.3	18.0	Talcahuano	Cristobal	General	860	4,535	3,068
Redondo	8	17.15	9	7.34	9	15.16	9	19.00	American	Susquehanna Steamship Co	341.0	48.2	21.9	Aberdeen	New York	Lumber, shingles	3,445	4,419	3,230
Mexican	9	6.10	9	8.49	9	18.35	9	23.25	American	United American Lines	472.3	57.2	31.0	Seattle	Liverpool	General	10,634	9,258	6,789
Kinghorn	9	6.00	9	10.05	9	18.16	10	7.45	Norwegian	Britannia Steamship Co	411.6	55.5	23.0	Shanghai	Colon?	General	8,000	6,566	4,612
Kronborg	9	11.05	9	11.39	9	20.35	9	22.05	Danish	C. K. Hansen	330.0	42.0	23.0	Mejillones	Colon?	Nitrate	5,400	3,722	2,653
Laura C. Hall	9	3.00	9	12.04	9	20.05	....	....	British	Pacific Metals Corp	81.0	26.6	10.0	Buenaventura	Cristobal	General	65	132	72
Baltimore Maru	9	13.00	9	13.50	9	22.00	10	13.10	Japanese	Kabushiki Kaisha	450.0	53.0	28.0	Portland	Cork	Wheat	8,250	7,025	5,055
Twickenham	9	8.00	10	7.56	10	15.25	10	17.55	British	Watts, Watts & Co	390.0	52.0	23.2	Iquique	United King'm	Nitrate	7,300	5,432	3,790
Kristianafjord	10	9.00	10	9.41	10	18.05	10	22.20	Norwegian	Norwegian-American Line	421.7	55.8	26.6	San Francisco	Hull	General	7,812	7,349	5,181
Petersham	10	13.50	10	14.46	10	23.05	11	12.15	British	Watts, Watts & Co	344.6	49.8	23.0	Pisagua	Gibraltar	Nitrate	5,970	4,139	3,051
Anten	10	22.00	11	11.26	11	19.08	11	19.08	Swedish	Swedish Transatlantic Co	420.0	54.0	28.0	Portland	Dublin	Wheat, general	9,460	7,059	5,226
Steel Exporter	11	11.30	11	12.25	11	20.11	11	20.11	American	U. S. Steel Products Co	424.2	56.2	25.6	Seattle	Boston	General	6,680	7,611	5,450
Maple Branch	11	20.00	12	7.54	12	15.45	12	17.40	British	F. and W. Ritson	400.0	52.0	24.9	Taltal	Liverpool	General, nitrate	7,032	5,618	4,116
Tofuku Maru	12	6.30	12	9.01	12	16.34	12	16.34	Japanese	Kawasaki Kabushiki	385.0	51.0	26.6	Portland	Algiers	Wheat	7,506	5,919	4,400
Blue Triangle	12	10.40	12	11.31	12	19.17	12	19.17	American	N. Atlantic & Western S. S. Co	390.0	54.2	25.0	Seattle	Philadelphia	General, lumber	5,965	6,609	4,317
Amalienborg	12	11.25	12	12.31	12	21.00	12	22.35	Danish	C. K. Hansen	320.3	47.2	21.0	Iquique	Baltimore	Nitrate	4,600	3,567	2,460
Norman Monarch	12	15.55	13	6.51	13	14.13	13	14.13	British	Kinsley Steamship Co	400.6	52.0	24.3	Mejillones	San Juan	Nitrate	7,750	5,568	4,146
Alvarado	13	10.00	13	11.50	13	18.56	14	16.30	British	Pacific Steam Navigation Co	303.0	43.0	17.10	Guayaquil	New York	Cocoa, coffee	1,570	2,843	1,748
Eten	13	19.00	14	7.00	14	15.00	15	6.22	Peruvian	Peruvian Line	435.0	53.2	25.8	Callao	Greenock	General	6,538	....	..
Marore	13	22.00	14	7.50	14	19.35	15	2.10	American	Ore Steamship Corp	550.3	72.2	32.6	Cruz Grande	New York	Iron ore	20,000	15,551	4,297
Balboa	14	5.00	14	8.59	14	17.15	....	....	American	Stone & Yard	190.0	29.1	15.0	Esmeraldas	Cristobal	General	570	737	335
O-16 [1]	....	....	14	9.07	14	17.05	....	....	American	U. S. Navy	175.0	16.4	....	Balboa	Cristobal	....	....	....	....
Orient City	14	8.00	14	10.00	14	18.07	14	20.05	British	St. Just Steamship Co	396.5	53.5	24.0	Portland	Falmouth?	Wheat	7,700	5,683	4,229

[1] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 130, column 2.)

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, September, 1922.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.							Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Far East.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																									
United States—																									
North Atlantic ports	4,015	457	310	2,451	5,766	12,999	145,651	25			85	42	145,803	12,024	18,259	165	41,990	72,438	55	20,067	12,944	33,066	2,403	266,709	57.0
South Atlantic ports					433	433	3,974						3,974		1,335		3,097	4,432		1,506		1,506		10,345	2.2
Gulf ports				1,925	1,130	3,055	15,770	1,200					16,970	12,844	17,925		10,854	41,623		6,078		6,078		67,726	14.5
Totals, United States	4,015	457	310	4,376	7,329	16,487	165,395	1,225			85	42	166,747	24,868	37,519	165	55,941	118,493	55	27,651	12,944	40,650	2,403	344,780	73.7
East coast of Mexico	7,823					7,823																		7,823	1.7
Cristobal, C. Z.[2]		294	84	364	1,848	2,590	264			1,463	1,718		3,445											6,035	1.3
West Indies	37					37	3						3											40	
East coast of Canada																					3,782	3,782		3,782	0.8
Totals, North America	11,875	751	394	4,740	9,177	26,937	165,662	1,225		1,463	1,803	42	170,195	24,868	37,519	165	55,941	118,493	55	27,651	16,726	44,432	2,403	362,460	77.5
Europe:																									
Belgium	170				25	195	9,001		200				9,201											9,396	2.0
British Isles	50				4,925	4,975	17,210		473	5,460			23,143						18,045			18,045		46,163	9.9
Denmark	3,381					3,381	740						740											4,121	0.9
France	5				261	266	325						325								2,460	2,460		3,051	0.6
Germany	1,347		97	171	2,071	3,686	1,344						1,344											5,030	1.1
Holland	159		11	87		257	536		50				586											843	0.2
Italy	105		127	50	160	442	174						174											616	0.1
Norway and Sweden	938					938	910						910											1,848	0.4
Europe[1]					13,571	13,571	7,087			4,797			11,884											25,455	5.4
Total, Europe	6,155		235	308	21,013	27,711	37,327		723	10,257			48,267						18,045		2,460	2,460		96,523	20.6
East Coast, South America	160			60	1,213	1,433	7,274		59				7,333	87				87						8,853	1.9
Grand totals	18,190	751	629	5,108	31,403	56,081	210,263	1,225	782	11,720	1,803	42	225,835	24,955	37,519	165	55,941	118,580	18,100	27,651	19,186	64,937	2,403	467,836	100.0
Per cent of total cargo:																									
September, 1922	4.0	0.1	0.1	1.1	6.7	12.0	44.9	0.3	0.1	2.5	0.4		48.2	5.3	8.1		11.9	25.3	4.0	5.9	4.1	14.0	0.5	100.0	
August, 1922	13.9	0.7	0.2	3.3	3.8	21.9	38.7		0.2	0.3	0.5		39.7	8.3	15.8	0.3	0.7	25.1	6.6	1.3	4.7	12.6	0.7		
September, 1921	5.7	0.5	0.2	0.7	10.6	17.7	18.8		2.4		0.4	8.8	30.4	13.6	6.2	1.3	15.6	36.7	2.6	6.3	6.0	14.9	0.3		

[1] General cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transfer cargo.

Distribution of Cargo passing through the Panama Canal from Pacific to Atlantic, September, 1922.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. East coast of Canada.	North America. West Indies.	North America. East coast of Mexico.	North America. Cristobal, C. Z.[1]	North America. Total, North America.	Europe. Belgium.	Europe. British Isles.	Europe. France.	Europe. Germany	Europe. Holland.	Europe. Italy.	Europe. Spain.	Europe. Europe.[1]	Europe. Total, Europe.	East coast of South America.	Africa.	Grand totals.	Per cent of total cargo.
South America:																						
Chile	90,201	10,221	2,720	103,142		[2]5,500			108,642	1,023	3,542	4,167	3,540	3,606		5,400	26,048	47,326		10,150	166,118	24.7
Peru	1,828			1,828		7,300		3,357	12,485		8,088		675				255	9,018			21,503	3.2
Colombia	730		11	741				887	1,628										5		1,633	0.2
Ecuador	1,054			1,054				1,074	2,128		3	210	27	56	740		85	1,121	88		3,337	0.5
West coast of South America[1]	3,824			3,824				2,643	6,467		5,886		290				53	6,229			12,696	1.9
Totals, South America	97,637	10,221	2,731	110,589		12,800		7,961	131,350	1,023	17,519	4,377	4,532	3,662	740	5,400	26,441	63,694	93	10,150	205,287	30.5
North America:																						
West coast of United States	181,254	1,125	8,337	190,716		18,258	956	6,133	216,063	253	73,332	10,836	520	418			55,186	140,545			356,608	53.2
West coast of Canada	10,882			10,882					10,882		1,078		17	30				1,125			12,007	1.8
West coast of Central America	103		1,272	1,375				1,377	2,752												2,752	0.4
West coast of North America[1]								135	135		4,521						1,970	6,491			6,626	1.0
Totals, North America	192,239	1,125	9,609	202,973		18,258	956	7,645	229,832	253	78,931	10,836	537	448			57,156	148,161			377,993	56.4
Asia:																						
China	5,470			5,470					5,470												5,470	0.8
Japan	1,931			1,931					1,931												1,931	0.3
Philippines	12,058			12,058					12,058												12,058	1.8
Far East[2]	15,341			15,341		6,246			21,587		5,010							5,010			26,597	4.0
Totals, Far East	34,800			34,800		6,246			41,046		5,010							5,010			46,056	6.9
Australasia:																						
Australia	3,000			3,000					3,000												3,000	0.4
New Zealand	2,742			2,742	275				3,017		3,931							3,931			6,948	1.1
Australasia[1]																	19,175	19,175			19,175	2.9
Totals, Australasia	5,742			5,742	275				6,017		3,931						19,175	23,106			29,123	4.4
Hawaii	9,699	374		10,073					10,073								1,820	1,820			11,893	1.8
Grand totals	340,117	11,720	12,340	364,177	275	37,304	956	15,606	418,318	1,276	105,391	15,213	5,069	4,110	740	5,400	104,592	241,791	93	10,150	670,352	100.0
Per cent of total cargo:																						
September, 1922	50.7	1.8	1.9	54.4		5.6	0.1	2.3	62.4	0.2	15.7	2.3	0.8	0.6	0.1	0.8	15.6	36.1		1.5	100.0	
August, 1922	51.2	3.2	1.9	56.3	1.9	1.4		1.2	60.8	1.8	19.2	2.3	2.8	1.8		1.0	9.9	38.8	0.4			
September, 1921	29.8	1.6	0.7	32.1		1.1		2.6	35.8	3.8	37.3	1.5	1.8	0.7	1.1	1.7	14.1	64.1	0.1			

[1] General cargo not routed so as to allow segregation between definite ports.

[2] For orders.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Three Weeks Ending October 14, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Turrialba	United Fruit Co	September 24	September 25	(1)	27¼
Calamares	United Fruit Co	September 24	September 24	2	77
Gen. O. H. Ernst	Panama Railroad Steamship Line	September 24	September 25	307	(2)
Almelo	Royal Netherlands W. I. Mail		September 25		¾
Gen. W. C. Gorgas	Panama Railroad Steamship Line	September 24	September 29	1,619½	1,973
Almagro	Pacific Steam Navigation Co	September 24		51	
Amassia	Hamburg-American Line	September 25	September 25	25	24
Balboa	Colombian Maritime Co	September 25		401	
Cartago	United Fruit Co	September 25	September 28	1,099	70
Pastores	United Fruit Co	September 26	September 27	372	290
Salvador	Pacific Steam Navigation Co		September 27		1,052
Willsolo	Williams Steamship Co	September 26	September 27	150	(2)
Puerto Rico	French Line	September 26	September 28	31	500
Ucayali	Peruvian Line	September 26		835	
San Gil	United Fruit Co	September 26	September 26	4	(2)
Huasco	United Fruit Co	September 27	September 30	776	425
San Juan	Pacific Mail Steamship Co	September 27		307	
Cacique	Pacific Mail Steamship Co	September 27	September 29	400	58
Sixaola	United Fruit Co	September 27	September 28	82	167
Metapan	United Fruit Co	September 28	September 28	(1)	1
Turrialba	United Fruit Co	September 28	September 28	4	76
W. L. Steed	Huasteca Petroleum Co	September 28	September 29	9,428	(2)
Asian	Leyland Line	September 29		611	
F. H. Hillman	West India Oil Co	September 30		750	
Siam	Danish East Asiatic Co	September 30		38	
Theben	Kosmos Line	September 30		15	
Astronomer	Harrison Line	September 30		511	
Almagro	Pacific Steam Navigation Co		October 1		370
Balboa	Colombian Maritime Co		October 1		14
Ucayali	Peruvian Line		October 1		470
Pastores	United Fruit Co	October 1	October 1	45	83
Atenas	United Fruit Co	October 1	October 2	1½	158
El Oso	Anglo-Saxon Petroleum Co	October 1	October 2	4,500	(1)
San Juan	Pacific Mail Steamship Co		October 2		1,493
La Paz	Pacific Steam Navigation Co	October 2	October 4	217	233
Heredia	United Fruit Co	October 2	October 5	670	¼
Panama	Panama Railroad Steamship Line	October 3		1,502	
Colombia	Pacific Mail Steamship Co	October 3	October 4	127	482
Ulua	United Fruit Co	October 3	October 4	173	158
St. Mihiel	U. S. Government	October 4	October 7	1,075	25
Peursum	N. O. & S. A. Steamship Line	October 5	October 6	39	(1)
Cristobal	Panama Railroad Steamship Line	October 5		9,631	
Carrillo	United Fruit Co	October 5	October 5	1	163
Sixaola	United Fruit Co	October 5	October 5	4	2
Advance	Panama Railroad Steamship Line	October 5		563	
Cristobal	Panama Railroad Steamship Line		October 8		6
Advance	Panama Railroad Steamship Line		October 8		113
Ulua	United Fruit Co	October 8	October 8	39	84
Ecuador	Pacific Mail Steamship Line	October 8	October 8	133	149
Abangarez	United Fruit Co	October 8	October 9	(1)	115
Venezuela	Royal Netherlands W. I. Mail	October 8	October 9	108	(2)
Urubamba	Peruvian Line	October 8	October 12	1,586	501
Parismina	United Fruit Co	October 9	October 10	567	(2)
Laura C. Hall	Pacific Metals Corp	October 9		65	
Aysen	Chilean Line	October 9	October 12	885	610
Jason	Royal Netherlands W. I. Mail	October 10	October 11	100	(2)
Panama	Panama Railroad Steamship Line		October 11		2,015
Cardiganshire	Pacific Steam Navigation Co	October 10	October 11	130	27
Tolua	United Fruit Co	October 10	October 11	286	55
Montevideo	Spanish Line	October 10	October 12	180	291
Orita	Pacific Steam Navigation Co	October 11	October 12	137	4½
Tivives	United Fruit Co	October 11	October 12	220	343
Carrillo	United Fruit Co	October 11	October 12	(1)	10
Alvarado	Pacific Steam Navigation Co	October 13	October 14	724	42
Acajutla	Pacific Steam Navigation Co		October 12		822
Venezuela	Royal Netherlands W. I. Mail	October 13	October 14	(1)	78
Abangarez	United Fruit Co	October 13	October 13	10	86
Balboa	Colombian Maritime Co	October 14		570	
Colon	Panama Railroad Steamship Line	October 14		1,806	
Adalia	Hamburg-American Line	October 14		18	
Camito	Elders & Fyffes, Ltd	October 14	October 14	10	(2)
Ebro	Pacific Steam Navigation Co	October 14		112	

(1) No cargo discharged. (2) No cargo laded

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Daily Special Weather Bulletins for Caribbean Area.

The following circular of the United States Weather Bureau, dated September 15, 1922, concerning the distribution of weather information, forecasts, and warnings for the benefit of shipping in the Caribbean Sea, is published for the information of all concerned:

The United States Weather Bureau has made arrangements with the United Fruit Company for broadcasting and disseminating daily, beginning September 18, 1922, of special weather bulletins from the radio station located on Swan Island (radio call letters US) for the special benefit of shipping in the Caribbean Sea.

The a. m. bulletins will be in two parts. The first part will be broadcast only during the hurricane season, June to November, inclusive, and will consist of weather observations taken at approximately 8 a. m., 75th meridian time (7 a. m., 90th meridian time), at the following places which are indicated by key letters:

Swan Island	SI	Port au Prince, Haiti	PP
Belize, Honduras	BZ	Cienfuegos, Cuba	CFG
Bluefields, Nicaragua	BFD	La Fe, Cuba	LFE
Willemstadt, Curacao	W	Kingston, Jamaica	KN
San Juan, P. R.	SJ	Turks Island, Bahamas	TI

The names of the stations, as well as the key letters, will be radioed from September 18 to October 15, 1922, inclusive, in order that shipmasters may identify the stations; after that time only the key letters will be used.

The key letters will be followed by a group of five figures showing barometric pressure, wind direction, and wind force. The first three figures express actual barometer readings *in inches*, reduced to sea-level. The fourth figure is wind direction: 1=north, 2=northeast, 3=east, 4=southeast, 5=south, 6=southwest, 7=west, 8=northwest, 0=calm. The fifth and last figure shows wind force in the Beaufort scale, except when winds of force greater than 9 occur, words instead of figures will be used. If any portion of a report can not be furnished, such portion will be replaced by an equivalent number of letters "x." Example: SI 98643. Translated: Swan Island, barometer 29.86 inches, wind direction southeast, wind force 3.

The second part of the bulletin will consist of wind and weather forecasts for western Gulf of Mexico (west of longitude 90°), eastern Gulf of Mexico (east of longitude 90°), the Caribbean Sea (west of longitude 73°), and for the Windward Passage. Whenever the conditions warrant the forecasts will be preceded by advices and warnings regarding any storm or hurricane that may be in progress and of "northers" during the winter months. *The second part of the bulletin will be broadcast daily throughout the year.*

A night bulletin based on observations taken at 8 p. m., 75th meridian time, will also be broadcast *daily throughout the year* from Swan Island and will consist only of forecasts, advices, and warnings of the same character and for the same areas as are contained in the second part of the a. m. bulletin. When a hurricane is in progress the Weather Bureau will issue advices regarding its location, direction, progress, and intensity at frequent intervals, and these advices will be broadcast from Swan Island every two hours and on the even hour.

DAILY BROADCASTING SCHEDULES.

Swan Island (US) 2,240 meters, spark..... 11.30 a. m. (90th meridian time).
Swan Island (US) 2,240 meters, spark..... 10.45 p. m. (90th meridian time).

The daily bulletins will be radioed to Swan Island from the Tropical Radio Telegraph station at New Orleans (WNU) on 2,850 meters, spark, at 10.30 a. m. and p. m., and any ship or station is at liberty to pick up these messages and repeat them to other ships, should it desire to do so.

Beginning November 1, 1922, information displays will be made from the radio towers at Swan Island for the special benefit of ships in that region that are not equipped with wireless. The signals will consist of a large red pennant by day and a red lantern by night. These signals will indicate that important weather information regarding a hurricane or a "norther" is in the possession of the radio operator, which can be obtained by boat calls ashore. However, ships equipped with wireless that see the signals are permitted to call Swan Island (US) for the information. The United Fruit Company also permits ships that fail to obtain the regular weather broadcasts to call the Swan Island station at any time for the latest weather forecasts.

C. F. MARVIN,
Chief of Bureau.

Official Circular.

Appointment.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 12, 1922.

CIRCULAR No. 661-107:

Honorable John D. Wallingford was appointed District Judge of the Canal Zone by the President on September 2, 1922, and assumed the duties of that office by executing the oath of office on September 25, 1922.

M. L. WALKER,
Acting Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 125.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Oct. 8	Abangarez	United Fruit Co.	New Orleans and Habana.
Oct. 8	Ulua	United Fruit Co.	Port Limon.
Oct. 8	Venezuela	Royal Netherlands W. I. Mail.	Amsterdam via wayports.
Oct. 9	San Bruno	United Fruit Co.	New York.
Oct. 9	Parismina	United Fruit Co.	New Orleans.
Oct. 10	Tolon	United Fruit Co	New York via Habana.
Oct. 10	Montevideo	Spanish Line	Barcelona via wayports.
Oct. 10	Peron	French Line	Havre via wayports.
Oct. 11	Tivives	United Fruit Co.	New York via Kingston.
Oct. 12	Carrillo	United Fruit Co.	Colombian ports.
Oct. 13	Abangarez	United Fruit Co.	Bocas del Toro.
Oct. 13	Venezuela	Royal Netherlands W. I. Mail.	Port Limon.
Oct. 13	Blue Hill	Lhoste Steamship Co.	Bluefields.
Oct. 13	Colon	Panama Railroad Steamship Line.	New York via Haiti.
Oct. 13	Camito	Elders & Fyffes, Ltd.	Port Limon.
Oct. 14	Adalia	Hamburg-American Line.	Puerto Colombia.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Oct. 8	Cristobal	Panama Railroad Steamship Line.	Norfolk.
Oct. 8	Ulua	United Fruit Co.	New York via Habana.
Oct. 9	San Bruno	United Fruit Co.	Boston via Port Limon.
Oct. 9	Abangarez	United Fruit Co.	Bocas del Toro.
Oct. 10	Parismina	United Fruit Co	New Orleans via wayports.
Oct. 10	Venezuela	United Fruit Co	Port Limon.
Oct. 11	Panama	Panama Railroad Steamship Line.	New York via Haiti.
Oct. 11	Tolon	United Fruit Co.	New York via wayports.
Oct. 12	Carrillo	United Fruit Co	New York via Kingston.
Oct. 12	Tivives	United Fruit Co.	Colombian ports.
Oct. 12	Montevideo	Spanish Line	Barcelona and wayports.
Oct. 13	Abangarez	United Fruit Co.	New Orleans.
Oct. 14	Venezuela	Royal Netherlands W. I. Mail.	Amsterdam via wayports.
Oct. 14	Peron	French Line	Havre via wayports.
Oct. 14	Camito	Elders & Fyffes, Ltd.	Kingston.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., October 25, 1922. No. 11.

Heavy Commercial Traffic for One Day.

Eighteen commercial vessels and a Navy tug transiting the Canal on October 19, made up one of the heaviest day's traffic recorded since the opening of the Canal. The aggregate net tonnage, Panama Canal measurement, of the 18 commercial vessels, totaled 84,906 tons on which tolls of $74,943.25 were paid, and the aggregate cargo carried totaled 85,890 tons. Omitting the tug, which paid no tolls, the traffic from the Pacific to the Atlantic was 7 vessels, aggregating 29,153 net tons, Panama Canal measurement, carrying 43,690 tons of cargo and paying $26,778.75 in tolls. The movement from the Atlantic to the Pacific was 11 vessels, of 55,753 net tons, Panama Canal measurement, carrying 42,200 tons of cargo, and paying $48,164.50 in tolls.

In both number of ships and amount of tolls collected, the above traffic record was exceeded on November 23, 1921, when 18 merchant vessels, the British cruiser *Raleigh*, and a small launch made the transit of the Canal in one day, and tolls of $79,808.50 were paid.

Steamboat Inspection Service.

Rules and Regulations for the Board of Local Inspectors, Steamboat Inspection Service, The Panama Canal.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., March 17, 1922.

CIRCULAR NO. 644–7 (superseding all Circulars of the 644 series):

1. A revision of the Rules and Regulations established for the Board of Local Inspectors, Steamboat Inspection Service, The Panama Canal, has been compiled, and effective this date will supersede all Rules and Regulations contained in previous Circulars of the 644 series which are hereby canceled.

2. The establishment of the Board of Local Inspectors is in accordance with the Executive Order of October 2, 1909, and its decisions and procedure are based on and determined from the Navigation Laws of the United States and the General Rules and Regulations for Ocean and Coastwise Vessels as prescribed by the Board of Supervising Inspectors, Steamboat Inspection Service of the United States.

3. The Marine Superintendent of The Panama Canal shall act in the capacity of Supervising Inspector of the District of the Canal Zone, and the Governor of The Panama Canal shall act as the Supervising Inspector General for the Canal Zone.

JAY J. MORROW,
Governor.

NOTE:—The revised Rules and Regulations referred to above are published in the form of a pamphlet entitled "Rules and Regulations Prescribed by the Governor of The Panama Canal for the Board of Local Inspectors, Steamboat Inspection Service, The Panama Canal."

Whole Cargo of Wheat to Algiers.

The Japanese steamer *Tofuku Maru* of the Kawasaki Kabushiki Kisen Kaisha, passing through the Canal on October 12, carried 7,506 tons of wheat, shipped from Portland, Oreg., to Algiers. This is the first recorded shipment of a whole cargo to Algiers by way of the Canal, and a report from Portland states that the shipment was the first to go from Portland to Algiers in several years.

CANAL WORK IN SEPTEMBER.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of September, 1922:

BALBOA HEIGHTS, C. Z., October 20, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of September, 1922:

CANAL TRAFFIC.

For the first time since the Canal has been opened to traffic, the amount of tolls collected has exceeded the million dollar mark for 3 successive months. Tolls for the month were approximately 15 per cent greater than tolls collected in September a year ago, while the amount of cargo carried through the Canal was 50 per cent greater than September a year ago.

In the Atlantic-to-Pacific traffic the most marked increase in cargo tonnage, as compared with September a year ago, was in that originating on the Atlantic-Gulf seaboard of the United States. Cargo from this region through the canal for the the month totaled 344,780 tons as compared with 221,154 tons in September last year. This region furnished 73.7 per cent of the total westbound cargo tonnage through the Canal during the month, and the total from this one region exceeded the combined Atlantic-to-Pacific cargo tonnage through the Canal in September a year ago from all regions.

In the Pacific-to-Atlantic traffic the west coast of South America showed the most pronounced increase in cargo tonnage, a total of 205,287 tons of the east-bound cargo originating from South American west coast ports as compared with 75,338 tons in September a year ago. Cargo shipments from the Far East showed a proportionate gain over last year's shipments, but traffic from this region is relatively less important than that from South America.

Traffic between ports of the United States by way of the Canal (coastwise traffic) was the highest recorded during any month since the opening of the Canal.

The total number of vessels and craft of all kinds transiting the Canal during the month of September as compared with the preceding month and with the corresponding month of last year, was as follows:

	September, 1922.	August, 1922.	September, 1921.
Commercial vessels	240	257	221
Noncommercial vessels	18	25	37
Launches, etc. (under 10 tons measurement)	11	8	2
Total vessels and craft through Canal	269	290	260

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in September, as follows:

	North-bound.	South-bound.	Total.
Gatun	6	14	20
Pedro Miguel	28	41	69
Miraflores	29	41	70

COMMERCIAL TRAFFIC.[1]

Comparative Traffic Statistics.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of September, 1922, with that of the preceding month and the corresponding month of last year along the lines indicated at the head of the various tables.

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

TONNAGE, TOLLS AND CARGO CARRIED.

	September, 1922.	August, 1922.	September, 1921.	Average per month for past year.
United States equivalent net tonnage	843,113	857,925	748,744	800,566
Panama Canal net tonnage	1,070,410	1,084,133	925,137	999,904
Registered gross tonnage	1,333,101	1,358,917	1,167,220	1,255,251
Registered net tonnage	837,935	853,212	743,574	797,322
Tolls	$1,020,064.55	$1,055,336.75	$892,001.54	$976,289.64
Tons of cargo	1,138,188	1,165,950	754,894	1,008,083

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	September, 1922.	August, 1922.	September, 1921.
United States equivalent net tonnage	3,513	3,391	3,388
Panama Canal net tonnage	4,460	4,285	4,185
Registered gross tonnage	5,555	5,371	5,282
Registered net tonnage	3,491	3,372	3,365
Tolls	$4,250.27	$4,106.37	$4,036.21
Tons of cargo (including vessels in ballast)	4,742	4,701	3,416
Tons of cargo (laden vessels only)	5,221	5,047	4,289

UNITED STATES COASTWISE TONNAGE.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
September	25	134,239	$136,340.58	72,620	15	88,011	$83,011.64	104,642
October	22	113,712	116,752.05	86,442	19	96,731	101,710.00	105,951
November	24	136,349	131,558.19	91,067	17	86,958	88,339.80	101,460
December	20	104,152	106,549.80	73,967	23	116,482	117,600.08	105,134
1922.								
January	28	138,928	141,404.35	119,413	20	108,921	111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150
September	34	175,211	164,208.35	162,955	29	144,231	137,377 25	192,300

UNITED STATES SHIPPING BOARD VESSELS.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
September	10	53,816	$51,785.48	38,368	16	84,433	$82,566.25	109,610
October	10	55,300	53,475.00	34,593	14	61,980	62,318.75	79,129
November	12	74,635	71,525.74	44,975	5	29,949	29,127.50	28,865
December	9	47,604	46,318.75	44,101	6	32,957	32,803.75	28,784
1922.								
January	6	34,546	34,756.25	23,575	7	31,550	30,646.95	28,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532
September	8	43,796	36,661.62	33,559	5	24,116	23,363.75	36,935

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the canal during the past year, the figures representing the Panama Canal net tonnage.

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
September	277,984	160,534	10,889	23,038	58,189	530,634
October	262,440	226,431	27,828	20,516	33,960	571,175
November	301,680	192,594	14,997	18,444	11,302	539,017
December	312,225	198,287	21,113	15,601	28,443	575,669
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,223	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
September	369,756	170,003	4,382	17,271	21,004	582,416
Average month for past year	332,807	163,671	21,216	18,807	26,147	562,648

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
September	268,758	90,105	80,242	53,309	38,220	530,634
October	280,483	78,532	100,332	69,057	42,771	571,175
November	216,092	107,721	95,216	78,493	41,495	539,017
December	188,615	115,980	136,940	84,391	49,743	575,669
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
September	257,780	122,215	99,828	76,203	26,390	582,416
Average month for past year	203,078	120,203	118,273	77,176	43,918	562,648

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
September	218,453	84,212	14,762	30,814	46,262	394,503
October	252,645	124,560	37,720	41,436	42,018	498,379
November	189,942	126,381	23,556	6,581	56,934	403,394
December	195,969	135,952	28,194	39,616	41,844	441,575
1922.						
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
September	244,463	143,762	32,903	27,451	39,415	487,994
Average month for past year	188,658	125,740	30,378	37,712	54,768	437,256

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
September	204,820	140,555	26,478	17,114	5,536	394,503
October	259,613	170,189	18,222	30,955	19,400	498,379
November	196,974	164,345	20,446	16,760	4,869	403,394
December	191,277	192,575	25,550	21,739	10,434	441,575

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.—continued.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1922.						
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	11,851	472,271
September	165,132	263,987	10,868	21,782	26,225	487,994
Average month for past year	171,178	213,236	19,537	20,318	12,987	437,256

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of September, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	.....	3.5	3.9	.....
East coast of United States	23.8	.....	11.1	.....
East coast of Mexico	.....	44.4	.....	79.3
Cristobal, C. Z.	7.2	.....	.....	8.2
West coast of United States	26.9	.....	29.6	.....
West coast of South America	1.7	.....	14.3	.....
Australasia	.....	1.3	.....	27.2
Far East	.....	15.6	8.3	.....

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of September, 1922, was published in THE PANAMA CANAL RECORD under date of October 11, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes during September, 1922, as compared with the preceding month and with the corresponding month of last year:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	September, 1922.	August, 1922.	September, 1921.	September, 1922.	August, 1922.	September, 1921.
United States coastwise ports	34	35	25	29	25	15
United States and Far East	19	21	15	5	9	2
Europe and United States	13	12	18	15	8	24
United States and South America	14	16	9	17	21	8
Europe and South America	11	11	10	11	12	9
Cristobal and South America	7	11	12	10	9	11
Europe and Australasia	5	7	4	4	6	4
United States and Australasia	7	5	4	1	1	1
Europe and Canada	4	3	3	4	7	6
Mexico and United States	.....	1	.....	3	1	2
Mexico and South America	1	4	1	.....	1	2
United States and Canada	.....	1	4	3	2	1
Miscellaneous	18	14	23	12	14	8
Totals	126	141	128	114	116	93
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	175,211	159,982	134,239	144,231	127,577	88,111
United States and Far East	95,710	111,865	73,761	29,646	48,807	8,377
Europe and United States	60,888	53,981	78,307	75,988	40,873	112,759
United States and South America	48,493	59,491	30,257	69,217	78,350	27,358
Europe and South America	51,429	47,156	36,538	44,709	52,121	34,236
Cristobal and South America	13,667	18,094	17,658	17,291	14,235	12,409
Europe and Australasia	32,694	47,541	30,603	18,906	28,182	26,084
United States and Australasia	40,068	32,241	18,655	4,442	4,135	4,730
Europe and Canada	24,021	15,303	15,086	22,272	34,919	31,741
Mexico and United States	.....	2,957	.....	10,868	5,043	10,506
Mexico and South America	4,382	24,831	4,408	.....	4,822	9,587
United States and Canada	.....	6,427	14,064	15,721	11,075	4,971
Miscellaneous	35,853	31,993	77,058	34,703	22,132	23,634
Totals	582,416	611,862	530,634	487,994	472,271	394,503

	Atlantic to Pacific.			Pacific to Atlantic.		
	Tons of cargo carried.			Tons of cargo carried.		
	September, 1922.	August, 1922.	September, 1921.	September, 1922.	August, 1922.	September 1921.
United States coastwise ports	162,955	158,098	72,620	192,300	164,150	104,642
United States and Far East	118,483	140,316	105,935	43,119	45,833	11,516
Europe and United States	38,003	33,258	280	119,288	62,674	178,588
United States and South America	17,786	28,246	8,415	111,293	127,238	21,979
Europe and South America	27,932	43,968	12,365	64,206	73,800	44,570
Cristobal and South America	2,540	3,747	2,362	6,941	4,459	8,424
Europe and Australasia	20,505	35,736	19,686	23,106	33,609	20,192
United States and Australasia	40,650	27,630	16,900	3,000	1,465	5,828
Europe and Canada	16,700	10,654	12,115	30,693	54,263	47,713
Mexico and United States	.....	.....	.....	6,050	.....	.....
Mexico and South America	7,823	42,800	7,889	.....	.....	.....
United States and Canada	.....	6,440	4,774	19,679	11,712	.....
Miscellaneous	14,459	25,868	37,379	50,677	29,986	10,722
Totals	467,836	556,761	300,720	670,352	609,189	454,174

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,055,336.75. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the revenue would have been increased by $225,755.93. The additional tolls would have been contributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$33,244.45	$27,842.60	$61,087.05
Chilean	3,811.75	3,811.75	7,623.50
Danish	3,122.25	4,882.10	8,004.35
Dutch	6,526.60	2,418.60	8,945.20
French	3,417.50	.....	3,417.50
German	2,076.70	1,663.55	3,740.25
Italian	2,110.85	980.65	3,091.50
Japanese	3,485.80	2,063.05	5,548.85
Norwegian	909.45	2,592.60	3,502.05
Panaman	.....	858.90	858.90
Peruvian	3,015.25	4,665.00	7,680.25
Spanish	.....	190.90	190.90
Swedish	1,917.90	3,863.00	5,780.90
United States	49,237.08	57,067.65	106,304.73
Totals	112,875.58	112,900.35	225,755.93

The additional tolls which would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$32,819.49	$37,868.80	$70,688.29
United States and Canal Zone ports	319.70	575.90	895.60
United States and United States possessions	1,040.80	4,539.35	5,580.15
United States and foreign ports	14,109.69	12,022.35	26,132.04
Between foreign ports	947.40	2,061.25	3,008.65
Totals	49,237.08	57,067.65	106,304.73

Of the additional $225,755.93 revenue that would have been collected by using the Panama Canal rules of measurement exclusively, $8,121.60 represents the additional sum that would have been collected on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in September is shown in the following table, segregated by nationality of vessels: (Vessels in ballast excluded.)

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.03	1.48	1.24
Chilean	.22	18	.20
Danish	1.16	1.76	1.55
Dutch	.50	1.28	.69
French	.38	.....	.38
German	.95	1.47	1.15
Italian	.20	1.71	.72
Japanese	.83	1.67	1.09
Norwegian	.99	1.50	1.41
Peruvian	.14	.46	.33
Panaman	.....	1.72	1.72
Spanish	.....	2.05	2.05
Swedish	1.58	1.48	1.51
United States	1.07	1.36	1.22
Average ratio, September, 1922	.95	1.40	1.17
Average ratio, August, 1922	1.03	1.29	1.17
Average ratio, September, 1921	.81	1 28	1.04

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.93	1.33	1.11
United States and South America	.37	1.61	1.10
United States and Europe	.62	1.57	1.15
United States and Far East	1.24	1.45	1.29
Europe and South America	54	1.44	.96
Europe and Australasia	62	1.22	.84
Europe and Canada	.69	1.38	1.02
Cristobal, C. Z., and South America	19	.40	.31
United States and Australasia	1.01	.68	.98

COMMODITY STATISTICS.

Wheat and barley shipments from the west coast of North America showed an increase over the preceding month, but totaled only little more than half of the shipments of these commodities through the Canal during September, 1921. Nitrate shipments from Chile were approximately the same as for the preceding month, the totals for both August and September being greater than for any previous month since April, 1921. Shipments of canned fruit eastbound through the Canal totaled 41,154 tons, being the greatest amount listed since detailed commodity statistics were started beginning January 1, 1921. Hawaiian pineapple shipments, totaling 11,893 tons, helped to make up this total. Shipments of crude oil from the west coast of the United States were the highest recorded to date, probably due to the curtailed Mexican output, and shipments were made to the Canal Zone, to the West Indies, and to the eastern coast of the United States.

The following commodity statistics, compiled from declarations of cargo and manifests submitted by the ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 72 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent of all cargo passing from Pacific to Atlantic ports, the remaining being listed as "general merchandise." A brief comparative summary of the principal items is shown herewith, the figures representing tons of 2,240 pounds.

Commodity.	September, 1922.	August, 1922.	September, 1921.
Atlantic to Pacific.			
Ammonia	4,975	4,040	4,749
Canned goods, various	4,602	3,339	2,252
Cement	7,863	4,909	1,834
Coal and coke	8,371	41,175	16,040
Cotton, raw	4,562	9,719	19,207
Glass and glassware	1,665	1,918	2,645

Commodity.	September, 1922.	August, 1922.	September, 1921.
Atlantic to Pacific—Continued.			
Manufactured goods:			
Iron and steel	79,036	111,749	50,483
Railroad material	16,056	20,846	9,391
Machinery	7,174	8,242	6,641
Textiles	4,470	5,693	729
Other manufactured goods	13,570	14,004	2,570
Metals, various	6,273	19,800	8,467
Oils:			
Crude petroleum	8,049	45,319	17,981
Lubricating oil	11,235	2,567	.....
Kerosene, gasoline, benzine, etc	54,061	70,911	19,781
Vegetable and other oils	3,178	1,416	2,088
Paper	5,227	6,858	1,210
Phosphates	5,253	.....	5,888
Salt	1,942	5,778	911
Tobacco	2,504	1,486	2,452
Other and general merchandise	217,770	176,992	125,396
Totals	467,836	556,761	300,720
Pacific to Atlantic.			
Barley	59,730	50,689	107,831
Beans, peas, lentils	2,735	4,594	6,774
Borax	2,389	5,322	1,639
Canned goods:			
Fish	15,944	16,981	17,232
Fruit	41,154	24,864	35,427
Other and unclassified	1,806	6,608	4,302
Cacao	2,070	2,237	4,327
Coffee	3,631	3,780	6,013
Copra	5,632	5,847	6,817
Cold storage food products	3,232	8,414	10,600
Cotton, raw	4,027	5,061	5,392
Flour	3,321	4,005	15,101
Fruit, dried	1,795	7,588	6,664
Ivory nuts	2,587	2,912	3,164
Lumber	88,111	145,213	26,750
Metals:			
Copper	25,158	17,705	22,758
Various	3,619	2,793	1,071
Nitrates	94,556	97,438	22,758
Oils:			
Crude petroleum and naphtha	65,366	17,343	4,820
Lubricating oil	.....	11,249	.....
Benzine, gasoline, kerosene, etc	17,860	8,514	18,278
Coconut oil	7,741	.....	891
Vegetable and other oils	818	3,392	654
Ores:			
Iron	39,000	30,350	.....
Various other	13,446	13,650	6,433
Phosphates	14,020	13,650	.....
Rice	10,275	5,177	7,205
Skins and hides	3,958	3,297	1,459
Sugar	11,883	33,757	6,667
Tea	3,754	1,091	546
Wheat	43,711	20,355	75,486
Wool	7,121	6,637	5,522
Other and general	69,902	28,676	21,593
Totals	670,352	609,189	454,174

TRAFFIC BY NATIONALITY.

Nationality.	No. of ships.	Tonnage. United States equivalent.	Tonnage. Panama Canal net.	Tonnage. Registered. Gross.	Tonnage. Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific.							
British	42	157,555	196,558	243,330	151,970	$186,330.59	160,568
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,756
Danish	2	5,187	8,002	8,265	5,208	6,483.75	9,288
Dutch	4	14,092	20,118	22,675	14,160	17,615.00	10,073
French	4	14,162	17,419	21,072	13,152	17,485.30	6,546
German	3	10,834	12,991	17,386	10,995	13,542.50	12,353
Italian	2	6,071	8,083	10,169	5,877	7,588.75	1,588
Japanese	8	33,009	37,283	49,437	32,394	39,186.44	27,098
Norwegian	1	3,003	3,886	4,894	3,054	3,753.75	3,860
Peruvian	2	2,719	5,345	9,020	4,517	3,398.75	735
Swedish	1	2,850	4,567	4,875	3,677	3,562.50	7,230
United States	54	206,335	260,249	325,691	202,700	241,223.40	226,741
Totals, September, 1922	126	460,366	582,416	725,894	453,209	545,856.98	467,836
Totals, August, 1922	141	480,579	611,862	765,642	478,744	576,958.32	556,761
Totals, September, 1921	128	434,250	530,634	669,087	427,395	513,793.61	300,720

TRAFFIC BY NATIONALITY—continued.

Nationality.	No. of ships.	TONNAGE. United States. equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
From Pacific to Atlantic.							
British	34	121,445	150,952	190,454	119,673	$149,688.52	211,233
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,439
Danish	4	11,426	15,873	17,532	10,829	14,214.70	27,906
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	8,030
German	2	6,449	8,104	10,325	6,534	8,061.25	11,926
Italian	1	3,331	4,287	5,850	3,646	4,163.75	7,336
Japanese	3	13,184	15,313	20,003	12,915	16,312.55	25,624
Norwegian	4	15,732	18,045	21,376	13,952	19,665.00	27,014
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,625
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	3,597
Spanish	1	2,686	2,957	4,454	2,681	3,357.50	6,050
Swedish	3	7,100	10,615	11,924	9,005	8,875.00	15,674
United States	53	185,031	235,008	290,865	185,846	229,415.55	315,898
Totals, September, 1922	114	382,747	487,994	607,207	384,726	474,207.57	670,352
Totals, August, 1922	116	377,346	472,271	593,275	374,468	478,378.43	609,189
Totals, September, 1921	93	314,494	394,503	498,133	316,179	378,207.93	454,174
Total traffic.							
British	76	279,000	347,510	433,784	271,643	336,019.11	371,801
Chilean	6	9,098	15,830	17,160	11,010	11,372.50	3,195
Danish	6	16,613	23,875	25,797	16,037	20,698.45	37,194
Dutch	6	18,184	26,396	29,308	18,202	22,730.00	18,103
French	4	14,162	17,419	21,072	13,152	17,485.30	6,546
German	5	17,283	21,095	27,711	17,529	21,603.75	24,279
Italian	3	9,402	12,370	16,019	9,523	11,752.50	8,924
Japanese	11	46,193	52,596	69,440	45,309	55,498.99	52,722
Norwegian	5	18,735	21,931	26,270	17,006	23,418.75	30,874
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,625
Peruvian	5	6,427	13,095	21,345	10,548	8,033.75	4,332
Spanish	1	2,686	2,957	4,454	2,681	3,357.50	6,050
Swedish	4	9,950	15,182	16,799	12,682	12,437.50	22,904
United States	107	391,366	495,257	616,556	388,546	470,638.95	542,639
Totals, September, 1922	240	843,113	1,070,410	1,332,101	837,935	1,020,064.55	1,138,188
Totals, August, 1922	257	857,925	1,084,133	1,358,917	853,212	1,055,336.75	1,165,950
Totals, September, 1921	221	748,744	925,137	1,167,220	743,574	892,001.54	754,894

LATIN-AMERICAN TRAFFIC.

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
British	12	28,263	33,897	44,459	27,406	$31,697.66	20,933
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,756
Danish	1	2,202	3,384	3,515	2,202	2,752.50	4,622
Dutch	3	8,316	12,567	13,276	8,346	10,395.00	5,258
French	1	4,368	4,369	5,248	3,329	5,242.80	266
German	3	10,834	12,991	17,386	10,995	13,542.50	12,353
Italian	2	6,071	8,083	10,169	5,877	7,588.75	1,588
Japanese	1	3,877	4,118	5,853	3,621	4,596.25	1,787
Peruvian	2	2,719	5,345	9,020	4,517	3,398.75	735
United States	13	38,178	47,440	62,341	37,940	41,167.55	17,460
Totals, September, 1922	41	109,177	140,109	180,347	109,738	126,068.01	66,758
Totals, August, 1922	50	131,907	169,266	225,097	137,484	156,468.95	134,396
Totals, September, 1921	43	92,630	120,305	158,344	95,074	110,316.04	62,130

PACIFIC TO ATLANTIC.

British	18	56,786	71,733	90,293	54,740	69,169.42	97,331
Chilean	3	4,549	7,915	9,080	5,505	5,686.25	1,439
Danish	3	8,058	10,610	12,035	7,404	10,004.70	18,455
Dutch	2	4,092	6,278	6,633	4,042	5,115.00	8,030
German	2	6,449	8,104	10,325	6,534	8,061.25	11,926

PACIFIC TO ATLANTIC.—continued.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Italian	1	3,331	4,287	5,850	3,646	$4,163.75	7,336
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,625
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	3,597
Spanish	1	2,686	2,957	4,454	2,681	3,357.50	6,050
Swedish	1	1,349	1,458	2,316	1,630	1,686.25	2,720
United States	16	36,286	43,439	58,623	36,200	44,987.90	65,631
Totals, September, 1922	51	131,308	169,428	218,320	132,480	161,884.52	231,140
Totals, August, 1922	48	124,838	158,171	203,835	126,586	151,709.70	204,396
Totals, September, 1921	40	95,813	117,730	161,562	100,156	107,251.34	81,621

A further classification of the commercial traffic through the Canal during September is shown below:

Freight and passenger ships.	Atlantic to Pacific. No. of ships.	Atlantic to Pacific. Panama Canal net tonnage.	Atlantic to Pacific. Tolls.	Pacific to Atlantic. No. of ships.	Pacific to Atlantic. Panama Canal net tonnage.	Pacific to Atlantic. Tolls.
Laden	102	466,179	$450,978.15	100	409,681	$395,820.30
Ballast	9	44,941	35,298.90	1	2,925	2,106.00
Tankers:						
Laden	5	23,777	25,366.25	11	67,477	70,585.35
Ballast	10	47,519	34,213.68	2	7,911	5,695.92
Totals	126	582,416	545,856.98	114	487,994	474,207.57
Steamers	107	496,382	472,094.55	94	390,201	377,243.78
Motor ships	3	14,216	14,103.75	5	21,603	19,705.02
Motor schooners	1	72	78.75	1	72	78.75
Schooners				1	730	898.75
Tankers:						
Steam	15	71,296	59,579.93	11	65,563	64,682.17
Motor				1	2,957	3,357.50
Barge-schooner				1	6,868	8,241.60
Totals	126	582,416	545,856.98	114	487,994	474,207.57

VESSELS WITHOUT CARGO.

The number of ships in ballast transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

	Atlantic to Pacific. No. of ships.	Atlantic to Pacific. Panama Canal net tonnage.	Atlantic to Pacific. Tolls.	Pacific to Atlantic. No. of ships.	Pacific to Atlantic. Panama Canal net tonnage.	Pacific to Atlantic. Tolls.
British	10	40,349	$31,741.59	2	7,911	$5,695.92
Japanese	1	4,522	3,255.84			
United States	8	47,589	34,515.15	1	2,925	2,106.00
Totals	19	92,460	69,512.58	3	10,836	7,801.92

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during September, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated.

The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls, are not included in the commercial traffic.

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
U. S. naval vessels:						
Supply ship	1	[2] 4,588	$5,735.00			
Transports	1	[2] 3,908	4,885.00	3	[1] 22,530	$16,657.50
Cruisers	2	[2] 7,600	3,800.00			
Tugs	4	[2] 3,000	1,500.00	3	[1] 2,250	1,125.00
Launch	1	[3] 24	18.00			
Submarines				2	[2] 1,724	862.00
U. S. Army vessels:						
Launch	1	[3] 15	11.25			
Private launches	9	[3] 41	33.50	2	[3] 4	3.00
Totals	19		14,982.75	10		18,647.50

[1] Registered net tonnage. [2] Displacement tonnage. [3] Panama Canal net tonnage.

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of September, 1922, are shown in the following tabulation:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	17,221	23,416	40,637
Local cargo shipped	tons	2,986	2,608	5,594
Transit cargo arriving	tons	1,132,732	1,159,144	2,291,876
Transit cargo clearing	tons	1,120,681	1,155,139	2,275,820
Cargo received for transshipment	tons	27,584	1,025	28,609
Cargo transshipped	tons	16,540	309	16,849
Vessels supplied with bunker coal:				
Army vessels		1	1	2
Commercial, other than Panama Railroad vessels		40	4	44
Panama Railroad vessels		2		2
Total vessels supplied with coal		43	5	48
Coal supplied to above vessels:				
Army vessels	tons	21	32	53
Commercial, other than Panama Railroad vessels	tons	10,377	664	11,041
Panama Railroad vessels	tons	773		773
Total coal supplied to vessels	tons	11,171	696	11,867
Coal issues, miscellaneous:				
Panama Canal departments	tons	311	55	366
Panama Railroad Company, excepting vessels	tons	8		8
U. S. Army, excepting vessels	tons	307		307
Individuals and companies	tons	245		245
Total coal issues from Panama Canal deposits:				
September, 1922	tons	12,042	751	12,793
August, 1922	tons	27,183	835	28,018
September, 1921	tons	13,759	1,745	15,504
Coal on hand, October 1, 1922	tons	115,352	2,528	117,880
Coal on hand, September 1, 1922	tons	117,783	3,279	121,062
Coal received during September, 1922	tons	9,611		9,611
Fuel oil issues from Panama Canal tanks:				
Panama Canal departments	bbls	5,730	11,960	17,690
Panama Railroad Company	bbls	391		391
Army and Navy	bbls	586	444	1,030
Individuals and companies	bbls		196	196
Total issues and sales	bbls	6,707	12,600	19,307
Fuel oil on hand, October 1, 1922	bbls	65,125	49,857	114,982
Fuel oil on hand, September 1, 1922	bbls	71,832	62,284	134,116
Borrowed from West India Oil Co.	bbls		173	173
Diesel oil issued during September, 1922	bbls	10		10
Diesel oil sold during month	bbls	3,590		3,590
Diesel oil on hand, October 1, 1922	bbls	45,038	887	45,925
Oil pumped for individuals and companies	bbls	348,070	193,709	541,779
Miscellaneous transfers	bbls	3,804	11,091	14,895
Total oil handled	bbls	362,181	217,400	579,581

	Cristobal.	Balboa.	Total.
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	25	3	23
Measured for Panama Canal net tonnage	3	1	4
Remeasured for Panama Canal net tonnage	11	2	13
Panama Canal net tonnage corrected	14	4	18
U. S. equivalent tonnage corrected	16	9	25
Services of harbor equipment:			
Tugs, total operating hours	448	188	636
Launches, total operating hours	1,073	1,201	2,274
Revenues from tug service, pilotage, etc.:			
Tug service	$13,312.50	$5,892.35	$19,204.85
Launch service	1,324.50	1,437.50	2,762.00
Pilotage	11,806.00	4,238.00	16,044.00
Seamen	3,952.00	3,704.00	7,656.00
Wharfage	304.05	1,868.74	2,172.09
Miscellaneous cash collections	995.05	871.00	1,866.05
Vessels repaired at Panama Canal shops:			
Commercial	23	10	33
U. S. Army and Navy	5	6	11
Canal equipment	5	23	28
Vessels drydocked:			
Commercial	5	.....	5
Army and Navy	.....	2	2
Canal equipment	2	2	4
Clearances issued	145	140	285
Bills of health issued	145	140	285

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during September, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	291	1,620,841	1,014,883	258	1,419,187	889,954
Vessels entering the port but not transiting the Canal	51	250,913	151,950	8	32,550	20,160
Vessels transiting Canal and handling passengers or cargo	59	293,183	178,486	34	144,835	87,048
Ships clearing.						
All vessels, including those transiting Canal	299	1,611,015	1,013,786	257	1,410,327	882,739
Vessels entering the port but not transiting the Canal	52	255,243	153,345	8	32,043	20,265
Vessels transiting Canal and handling passengers or cargo	51	258,263	157,544	35	152,275	91,453

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of September, 1922:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,100	791	1,891	1	.....	1
From Pacific ports	121	42	163	232	67	299
Total disembarking	1,221	833	2,054	233	67	300
Embarking:						
For Atlantic ports	1,096	747	1,843	4	7	11
For Pacific ports	175	46	221	44	54	98
Total embarking	1,271	793	2,064	48	61	109

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Remaining on board vessels:						
From Atlantic to Pacific ports	490	1,897	2,387	563	1,859	2,422
From Pacific to Atlantic ports	521	993	1,514	642	1,035	1,677
From Atlantic to Atlantic ports	417	45	462	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	25	282	307
Total remaining on board	1,428	2,935	4,363	1,230	3,176	4,406
Total passengers arriving	2,649	3,768	6,417	1,463	3,243	4,706
Total passengers departing	2,699	3,728	6,427	1,278	3,237	4,515

COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of September, 1922:

	Ice.	Cold storage.	Groceries.	Laundry.	Miscellaneous.	Total.
Sales at Cristobal to:						
U. S. Government vessels	$328.50	$11,448.49	$1,982.08	.....	$413.90	$14,172.97
Panama Railroad vessels	16.20	3,417.97	61.12	.....	750.46	4,245.75
Other commercial vessels	871.26	11,145.51	2,880.86	.....	1,838.61	16,736.24
Total sales, September, 1922	1,215.96	26,011.97	4,925.06	.....	3,002.97	35,154.96
Total sales, August, 1922	1,175.13	19,787.72	5,352.69	.....	2,107.52	28,423.06
Total sales, September, 1921	2,022.09	19,660.17	4,121.98	778.89	956.74	27,539.87
Sales at Balboa to:						
U. S. Government vessels	74.05	3,447.14	462.97	95.39	325.68	4,405.23
Other commercial vessels	308.11	3,418.15	647.49	567.83	559.12	5,500.70
Total sales, September, 1922	382.16	6,865.29	1,110.46	663.22	884.80	9,905.93
Total sales, August, 1922	400.36	7,199.63	1,146.37	2,003.18	715.11	11,464.65
Total sales, September, 1921	764.45	11,978.82	3,087.63	2,782.05	583.72	19,196.67

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of September, 1922, as compared with the preceding month and with the corresponding month of last year.

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Sept., 1922.	Aug., 1922.	Sept., 1921.
Gatun	112	126	238	8	5	13	251	260	225
Pedro Miguel	114	124	238	12	20	32	270	280	247
Miraflores	114	124	238	12	19	31	269	279	243
Number of vessels put through locks.									
Gatun	117	137	254	17	24	41	295	314	276
Pedro Miguel	115	127	242	38	52	90	332	318	288
Miraflores	115	127	242	40	52	92	334	322	285

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro. Miguel.	Miraflores.
Army and Navy vessels	21	21	22
Canal equipment	29	69	70

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	937,410,000	970,100,000	779,100,000
Leakage	25,000,000	19,830,000	20,000,000
Total consumption, September, 1922	962,410,000	989,930,000	799,100,000
Total consumption, August, 1922	1,036,580,000	975,970,000	851,560,000
Total consumption, September, 1921	878,920,000	840,290,000	815,560,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of September, 1922, are shown in comparative form:

Rainfall.	September, 1922.	September, 1921.	September—Years of record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Total rainfall for month:					
Pacific Section	6.97	5.64	11.74	5.64	8.57
Central Section	9.21	11.75	15.16	6.56	11.24
Atlantic Section	15.03	11.38	15.03	7.94	12.08
Maximum recorded on any one day	4.72	3.07	[1] 10.86	.....	.....
Gatun Lake watershed	12.83	11.98	16.14	8.88	11.76
Chagres River watershed above Alhajuela	16.01	11.61	18.62	7.25	12.63
Maximum for month at any one point	22.91	15.69	28.92	.....	.....
Minimum for month at any one point	5.64	3.27	.....	1.12	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	3,465	3,135	4,732	1,722	3,200
Maximum momentary discharge for month	27,255	17,750	[2] 170,000	.....	.....
Gatun Lake watershed total yield	8,751	9,457	11,946	4,703	8,716
Gatun Lake watershed net yield	8,301	8,995	11,238	4,620	8,187
Draft on Gatun Lake for lockages and power	2,038	2,181	[3] 2,427	[3] 1,322	[3] 1,906

[1] This represents the maximum 24-hour rainfall recorded on the Canal Zone and immediate vicinity since American occupation. Recorded at Porto Bello on December 28-29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including August, 1914.

NOTE.—Extreme outlying stations in the Republic of Panama are not included in this report.

SEISMOLOGY.

A very slight seismic tremor was recorded on September 15.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	September, 1922.	August, 1922.	September, 1921.
Gross output, K. W. H.:			
Gatun hydroelectric station	4,179,600	4,297,700	5,198,300
Miraflores steam plant	.....	490	1,970
Power distributed to consumers ..... KWH.	3,560,193	3,620,168	4,396,098
Loss of power in plant auxiliaries, transmission, and transformation ..... KWH.	619,407	678,022	804,172
Per cent of loss of power to gross output	13.81	15.77	15.50
Water consumption ..... cubic feet.	3,373,754,811	3,486,946,550	3,970,751,857
Oil consumption ..... barrels.	1,658	1,885	1,953

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 33 vessels at Cristobal and 39 vessels at Balboa. Of these, 7 were placed in dry dock at Cristobal, and 4 at Balboa. The more important repair work performed included the following:

The dredge *Mexico* was placed in dry dock and extensive repairs made, including the renewal of a number of shell plates and floor frames, and repairs to boiler furnaces and combustion chambers.

On the U. S. S. *Galveston*, a new port propeller shaft and new starboard and port propellers were machined and installed in place of her broken propeller shaft and former propellers.

On the steamship *Solano* repairs were made to main engines, condenser, jacking engine, cargo pumps, gauges, boilers, and miscellaneous piping. The outside of hull was scaled and painted and leaky seams and rivets on aft bulkheads caulked.

The bottoms of both 50,000 barrel oil tanks for the Navy were completed during the month and successfully lowered on to the foundations. The circular shell of these tanks is about 50 per cent erected.

The output of the foundry in patterns and castings for September, as compared with the preceding month, was as follows:

	September, 1922.			August, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	5	494	33,824	3	368	16,838
Steel	3	59	4,113	...	177	31,893
Nonferrous	7	694	3,643	3	223	3,474

The following is a statement of all job and blanket orders issued and completed during the month:

	Uncompleted, September 1.	Authorized in September.	Completed in September.	Uncompleted, September 30.
Job orders	369	552	504	417
Blanket orders	350	1	1	350

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the three filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	September, 1922.	August, 1922.	September, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	626,139,750	629,260,500	708,203,000
Filtration plants	357,076,000	360,180,000	426,862,000
Water consumed by Panama City	80,414,000	88,131,000	91,415,000
Water consumed by Colon	56,567,000	56,265,500	52,807,000
Sales of water to vessels	7,678,082	9,181,835	9,992,132

DREDGING.

East and West Culebra slides have both shown a slight general movement while Cucaracha and Barge Repair slides have been quiescent the whole month. There was no interference with Canal traffic from slides during the month.

The total excavation, including earth and rock, was 294, 200 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Stations.	Equipment.
	Earth.	Rock.			
				Gaillard Cut.	
36,550	6,400	30,150	Maintenance	La Pita improvement project	*Paraiso.*
9,850	2,900	6,950	Maintenance	White House slide	*Paraiso.*
14,950	5,850	9,100	Maintenance	Las Cascadas slide	*Paraiso.*
45,050	22,500	22,550	Maintenance	East Culebra slide	*Cascadas.*
1,900	950	950	Maintenance	West Culebra slide	*Cascadas.*
				Pacific Entrance.	
21,700	8,000	13,700	Maintenance	East side of Canal	*Cascadas.*
131,000	131,000	.....	Maintenance	East side of Canal	*No. 86.*
				Cristobal Coaling Station.	
30,700	30,700	.....	Auxiliary	West slip approach, A. F. E. 1457	*No. 83.*
2,500	.....	2,500	Auxiliary	West slip approach, A. F. E. 1457	*Cascadas.*
294,200	208,300	85,900			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped at sea, Pacific entrance	21,700
Fill, east of Canal, Pacific entrance	131,000
Dumped in Gatun Lake, north of Gamboa	108,300
Fill, west of Cristobal coaling station	30,700
North side, east breakwater, Atlantic entrance	2,500
Total	294,200

VITAL STATISTICS.

A total of 152 deaths occurred during the month of September, 1922, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 15.16 per thousand. The three leading causes of death were tuberculosis, pneumonia, and chronic nephritis; these three diseases caused 40 per cent of all deaths from disease.

Of the total deaths, 51, or 33 per cent, occurred among children under 5 years of age. There were 11 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 276 live births reported during the month, and 11 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 28.64 per thousand population. Deaths among children under 1 year of age numbered 45, giving an infant mortality rate, based on the number of births reported for September, of 163.04 per thousand live births.

Eight cases of malaria were reported from Panama, 10 from Colon, and 103 from the Canal Zone; of the latter, 75 were soldiers and sailors, 15 nonemployees, and 13 employees. There were 2 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of September 30, 1922.			Comparative totals.		
	Men.	Women.	Children.	September, 1922.	August, 1922.	September, 1921.
Americans	2,163	1,655	1,840	5,658	5,667	7,056
Europeans	88	40	88	216	215	258
West Indians	4,111	2,717	5,802	12,630	12,322	12,998
Totals, September, 1922	6,362	4,412	7,730	18,504	.....	.....
Totals, August, 1922	6,288	4,393	7,523	.....	18,204	.....
Totals, September, 1921	7,962	4,668	7,682	.....	.....	20,312

WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of September 20, 1922, with a comparison of the working force for the preceding month and that of September, 1921:

	As of September 20, 1922.			Total employees.	
	Gold.	Silver.	Total.	August, 1922.	September, 1921.
Operation and Maintenance:					
Office	27	35	62	62	60
Electrical	142	139	281	293	324
Municipal Engineering	75	520	595	603	762
Lock Operation	163	536	699	708	726
Dredging	134	775	909	827	898
Mechanical	325	579	904	965	1,565
Marine	156	372	528	516	581
Fortifications	32	125	157	205	304
Totals	1,054	3,081	4,135	4,179	5,220

	As of September 29, 1922.			Total employees.	
	Gold.	Silver.	Total.	August, 1922.	September, 1921.
Supply Department:					
Quartermaster	141	891	1,032	1,002	1,345
Subsistence	5	67	72	81	265
Commissary	159	763	922	915	1,266
Cattle Industry—Plantations	6	128	134	132	145
Hotel Washington	8	83	91	92	99
Transportation	35	148	183	183	.....
Totals	354	2,080	2,434	2,405	3,120
Accounting Department	185	10	195	191	210
Health Department	219	700	919	923	1,003
Executive Department	460	211	671	666	745
Totals	864	921	1,785	1,780	1,958
Panama Railroad Company:					
Superintendent	46	207	253	257	305
Transportation	64	101	165	168	197
Receiving and Forwarding Agent	60	675	735	773	1,063
Coaling stations	81	732	813	709	512
Totals	251	1,715	1,966	1,907	2,077
Grand totals, September, 1922	2,523	7,797	10,320	.....	.....
Grand totals, August, 1922	2,543	7,728	.....	10,271	.....
Grand totals, September, 1921	3,127	9,248	.....	.....	12,375

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of September, cash sales from stock, etc., are shown below in comparative form:

	September, 1922.	August, 1922.	September, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and Maintenance	$113,883.21	$209,286.36	$67,004.52
Miscellaneous departments	3,169.32	2,663.25	13,819.02
Totals	117,052.53	211,949.61	80,823.54
Cash sales on the Isthmus:			
Stock	28,180.42	31,964.53	27,105.54
Fuel oil	420.21	388.54	108.88
Scrap	834.42	996.86	400.01
Obsolete and second-hand material	54,360.27	1,695.62	828.31
Totals	83,795.32	35,045.55	28,442.74

Respectfully,

M. L. WALKER,
Acting Governor.

Coast and Geodetic Survey Vessels Transit Canal.

The *Pioneer* and the *Discoverer*, two Coast and Geodetic Survey ships, transited the Canal on September 6 and 9, respectively, enroute to the Alaskan coast to chart ocean areas that were once surveyed but have since been altered by various causes.

The *Pioneer* and the *Discoverer* were formerly the *Auk* and the *Osprey*, minesweepers of the United States Navy. They have been reconditioned at Philadelphia and equipped with scientific instruments for sounding and surveying.

The *Pioneer* has a length of 187 feet, 35 foot beam, 12 foot draft, and a total crew of 43; and the *Discoverer* has a length of 180 feet, 34 foot beam, 12½ foot draft, and a crew of 52.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 21, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Garfield	14	11.00	15	6.15	15	13.44	15	21.31	American	Grace Line	299.4	45.0	19.7	New York	Salaverry	General	2,124	3,228	2,010
Munaires	15	6.37	15	7.40	15	14.25	15	15.20	American	Munson Line	370.0	53.1	18.6	Baltimore	Seattle	General	2,500	5,577	4,225
Ebro	14	17.42	15	9.20	15	15.57	15	17.10	British	Pacific Steam Navigation Co.	450.0	58.0	21.7	New York	Valparaiso	General	1,043	9,151	6,227
Lorenzo	15	9.10	15	11.50	15	18.13	15	21.25	British	Ellerman & Bucknell	470.5	62.1	23.11	New York	Brisbane	General	11,900	8,571	6,087
Orleans	15	8.50	15	12.00	15	19.03	15	20.07	American	Oriental Navigation Co	395.5	55.0	20.11	New York	Los Angeles	General	5,200	7,330	5,233
Matakana	15	12.40	15	12.45	15	20.13	15	21.18	British	Shaw, Savill & Albion	477.5	63.0	27.1	Liverpool	Auckland	General	6,660	11,047	7,822
Patuxent [1]	9–25	16.53	15	12.25	16	14.36	.....	.....	American	U. S. Army	156.0	24.0	.....	Cristobal	Balboa	(4)	.....	.....	.....
Mariposa [2]	15	.....	15	.....	15	14.25	.....	.....	American	W. E. Porter	.....	.....	.....	Cristobal	Balboa	Ballast	....	4	4
Benjamin Brewster	15	14.28	16	6.15	16	13.50	16	14.50	American	Standard Oil Co	412.0	53.0	23.9	Habana	Talara	Ballast	.....	6,177	4,241
Oregon Maru	15	15.45	16	7.30	16	15.34	17	12.30	Japanese	Kawasaki Dockyard Co	385.0	51.0	25.0	Immingham	Iquique	Briquettes	6,302	6,251	4,700
Howick Hall	15	17.47	16	7.55	16	16.27	16	17.25	American	U. S. Steel Products Co	400.8	51.5	25.0	New York	Vancouver	General, steel	5,900	6,095	4,381
West Notus	15	23.00	16	8.45	16	17.14	16	18.25	American	Swayne & Hoyt (S. B.)	410.5	54.3	21.0	Buenos Aires	San Francisco	General	5,477	6,583	4,914
Wray Castle	16	10.03	16	10.25	16	18.33	16	20.02	British	Lancashire Shipping Co	419.2	55.8	24.0	Philadelphia	Yokohama	General, case oil	6,800	6,861	5,016
Santa Paula	15	12.27	16	12.33	16	18.50	17	15.18	American	Grace Line	404.6	53.0	19.5	New York	Seattle	General	4,048	6,744	4,825
Ocean Prince	16	3.55	16	12.44	16	20.11	16	21.07	British	Prince Line, Ltd	410.0	52.0	24.8	Antwerp	San Francisco	General	5,860	5,926	4,252
Balboa	14	17.15	17	6.15	17	13.33	17	15.00	American	Colombian Maritime Co	190.0	29.0	11.0	Cristobal	Buenaventura	General	69	737	335
Gymerie	17	18.10	18	6.22	18	14.11	18	15.30	British	Andrew Weir & Co	420.3	54.0	19.10	London	San Francisco	Ballast	.....	6,501	4,459
Montana	18	4.07	18	7.35	18	14.58	18	16.00	American	Atlantic Transport Co	419.5	56.0	26.0	Philadelphia	Los Angeles	General	6,924	8,696	6,315
Laura C. Hall [3]	9	20.05	18	9.14	18	15.48	20	20.21	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	10	132	72
Diadem	18	16.41	19	6.26	19	13.55	19	15.10	British	Hall Brothers S. S. Co., Ltd	390.0	54.0	23.6	Newcastle-on-Tyne	Callao	Coal and coke	5,520	5,918	4,142
Canadian Challenger	18	7.00	19	7.25	19	14.43	19	15.48	British	Canadian Govt. Merchant Marine	400.0	52.0	21.2	Sydney	Brisbane	General	4,000	6,142	4,354
Frank Lynch	18	18.57	19	8.00	19	16.20	19	17.45	American	W. J. Gray, Jr	252.0	43.5	15.1	New York	San Francisco	Ballast	.....	2,182	1,325
Isis	18	20.49	19	8.10	19	15.22	19	18.15	German	Kosmos Line	376.0	51.6	22.0	Hamburg	Corral	General	5,052	5,788	4,027
City of Pittsburgh	19	0.28	19	8.55	19	16.45	19	17.50	British	Ellerman Lines	465.0	58.0	24.0	New York	Shanghai	General	6,454	9,660	7,415
Bethore	19	2.55	19	9.15	19	17.45	19	18.45	American	Ore Steamship Co	550.0	72.0	23.0	Baltimore	Cruz Grande	Ballast	.....	15,476	11,102
Muroran Maru	19	8.25	19	10.27	19	18.37	19	19.55	Japanese	Nippon Yusen Kaisha	400.0	54.0	21.6	New York	Yokohama	Lubri. oil, gen.	4,919	5,926	4,196
Robin Gray	19	4.25	19	11.30	19	19.35	19	20.40	American	Robin Line	425.0	55.0	28.6	Baltimore	Los Angeles	General	9,467	7,472	5,542
Huallaga	16	22.35	19	12.30	19	19.43	19	20.48	Peruvian	Peruvian Line	360.0	44.7	20.6	Cristobal	Guayaquil	General	218	4,514	2,386
Laurel Branch	19	12.35	19	12.40	19	20.25	19	21.30	British	F. and W. Ritson	360.0	46.0	19.0	London	Guayaquil	General	2,590	4,182	3,047
Amsterdam	18	15.31	19	13.17	19	21.15	19	22.20	Dutch	Royal Netherlands W. I. Mail	474.4	65.6	22.6	Amsterdam	Chile	General	4,070	11,647	8,217
Breckenridge [2]	.....	.....	18	.....	18	.....	.....	.....	American	U. S. Army	.....	.....	.....	Cristobal	Miraflores	(5)	.....	.....	.....
Andrea F. Luckenbach	19	20.20	20	6.45	20	13.45	20	14.49	American	Luckenbach Line	496.0	68.2	23.0	New York	Los Angeles	General	7,066	11,487	8,762
San Lamberto	19	7.10	20	7.35	20	15.34	20	16.50	British	Eagle Oil Transport Co	395.6	55.0	28.3	Amsterdam	Los Angeles	Creosote	8,523	6,741	4,325

[1] Tug. [2] Launch. [3] Motor schooner. [4] Towing raft. [5] Towing launch *Conroy*.

O-13[6]			20	7.38	20	14.19			American	U. S. Navy	175.0	16.3		Cristobal	Balboa					
Edgemoor[7]	18	23.34	20	8.03	20	16.25	20	17.32	American	U. S. Army	409.6	54.2	21.7	New York	San Francisco	Army supplies	3,748			
Independence	20	8.55	20	9.05	20	17.20	21	19.45	American	Barber Line (S. B.)	440.0	56.0	25.0	New York	Yokohama	General	6,785	8,290	6,063
Brush	20	9.20	20	9.25	20	18.01	22	19.20	American	N. Atlantic & Western S. S. Co.	390.0	54.2	22.9	New York	Seattle	General	4,000	6,209	4,317
Agwistar	19	23.52	20	10.25	20	18.46	20	19.39	American	New York & Cuba Mail S. S. Co	370.0	53.1	22.0	Baltimore	Portland	General	5,626	5,523	4,203
Steel Mariner	20	12.35	20	12.45	20	19.40	20	20.50	American	U. S. Steel Products Co	424.0	56.0	25.0	Galveston	Los Angeles	General	7,625	7,539	5,448
Montrolite	20	15.06	21	6.25	21	13.41	21	14.18	British	Imperial Oil Co	421.0	57.3	15.6	Montreal	Talara	Ballast		7,378	5,154
Matoppo	20	15.45	21	7.40	21	14.50	21	16.00	British	Ellerman & Bucknell	400.5	52.5	23.0	New York	Sydney	General	4,599	5,853	4,285
Manavi	19	4.05	21	8.11	21	15.21	21	20.14	British	Pacific Steam Navigation Co	216.0	35.1	14.6	Pto. Colombia	Guayaquil	General, salt	736	1,357	884
Lobos[8]	20	4.30	21	8.47	21	16.32	21	18.00	British	Pacific Steam Navigation Co	405.0	54.2	20.3	Hull	Valparaiso	General	5,786	7,151	4,756
Clan Mac-Brayne	20	17.58	21	9.35	21	17.23	21	18.25	British	Clan Line Steamship Co., Ltd.	390.0	50.5	25.0	Port Arthur	Hongkong	Case oil, gasoline	5,950	5,330	3,684
Sithonia	21	6.26	21	10.25	21	18.03	21	18.33	British	H. M. Thomson	420.0	56.0	25.10	New York	Yokohama	Case oil	7,530	6,753	4,823
Craster Hall	21	6.35	21	10.35	21	18.48	21	19.20	American	U. S. Steel Products Co	380.0	50.0	24.6	New York	Buenaventura	General	5,900	4,945	3,508
Montecillo	21	10.15	21	11.55	21	19.36	21	20.15	Spanish	General Navigation Co	330.0	48.0	12.6	Las Palmas	Caleta Grande	Ballast			

[6] Submarine. [7] Transport. [8] Motor ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Delaware	14	20.00	15	6.50	15	16.40	16	5.35	British	Anglo-American Oil Co	345.0	44.3	26.0	San Francisco	London	Oil	4,909	3,968	2,512
South American	15	6.00	15	8.00	15	16.00	15	19.25	British	American Metals Trans. Co	251.0	43.6	15.9	Callao	New York	General	2,000	2,444	1,593
Hague Maru	15	7.40	15	8.29	15	16.24	15	19.45	Japanese	Osaka Shosen Kaisha	407.0	51.0	18.6	Yokohama	New York	General	5,063	6,202	4,507
Stathis	15	9.15	15	10.05	15	17.40	15	19.05	British	Glover Brothers	400.0	52.2	24.0	Portland	Colon[9]	Wheat	7,267	6,053	4,542
Sunbeam	15	11.00	15	14.08	15	21.28	15	21.28	American	Sun Company	429.3	59.0	27.0	Los Angeles	Chester, Pa.	Oil	10,752	7,701	5,472
Birk	15	17.00	16	7.00	16	15.24	16	16.15	Norwegian	A. S. Odfjell	359.8	52.1	23.10	Iquique	Colon[9]	Nitrate	6,935	4,751	3,160
Lady Charlotte	15	19.30	16	8.19	16	16.07	16	16.07	British	Andrew Weir & Co	375.2	52.0	23.0	Caleta Buena	Alexandria	Nitrate	6,948	5,139	3,671
Texan	15	23.30	16	9.05	16	16.35	16	16.35	American	United American Lines	471.0	57.6	27.6	Seattle	Boston	General	9,244	9,154	6,970
Alaska	16	1.10	16	9.51	16	17.08	16	19.50	French	French Line	442.8	55.0	26.6	Portland	Ostend	General	7,299	6,990	4,854
Santa Lusia	16	6.00	16	11.06	16	17.54	16	23.20	American	Grace Line	362.0	51.6	23.4	Talcahuano	New York	General	4,007	5,694	3,975
Iwatesan Maru	16	7.00	16	11.20	16	19.20	16	19.22	Japanese	Mitsui Bussan Kaisha	385.0	51.0	35.6	Portland	Europe	Wheat	7,199	5,889	4,229
Duendes	16	6.00	16	12.31	16	20.25	16	21.42	British	Royal Mail Steam Packet Co	390.0	50.0	24.5	Corral	Liverpool	General	5,759	6,006	4,287
Huallaga	16	5.00	16	14.08	16	21.35	19	12.30	Peruvian	Peruvian Line	360.0	44.7	19.0	Ilo	Cristobal	General	884	4,514	2,386
Robert Luckenbach	16	12.30	16	14.54	16	23.00	16	22.25	American	Luckenbach Line	445.0	58.0	25.0	Portland	New York	General	8,970	8,617	6,297
Usuri Maru	16	13.30	16	15.12	16	23.31	17	15.57	Japanese	Nohon Kishen Kaisha	407.0	51.0	23.3	Portland	London	Lumber	5,260	6,191	4,492
Ravnanger	17	6.30	17	8.19	17	15.48	17	17.20	Norwegian	Munson Line	335.6	48.2	19.2	Vancouver	Poughkeepsie	Lumber	3,280	3,664	2,471
Luise Nielsen	17	6.35	17	8.48	17	17.30	18	3.15	Norwegian	Asiatic-American S. S. Co	409.6	54.0	24.6	Portland	Civita Vecchia	Wheat	7,699	6,618	5,050
Montcagle	17	9.30	17	10.48	17	18.20	17	20.30	British	Canadian Pacific Steamship Co.	445.0	52.0	22.3	Vancouver	Montreal	Lumber	3,700	7,833	5,433
Aymeric	17	15.00	18	6.57	18	15.05	19	22.25	British	Andrew Weir & Co	400.3	52.0	24.6	Iquique	Alexandria	Nitrate	7,586	6,076	4,395
Hermes	17	15.45	18	7.54	18	16.15	19	10.57	Dutch	Royal Netherlands W. I. Mail	363.0	46.1	19.6	Valparaiso	Amsterdam	Nitrate, general	3,832	4,182	3,059
Santore	17	17.30	18	8.33	18	17.10	19	2.45	American	Ore Steamship Co	449.1	57.2	29.0	Cruz Grande	Sparrows' Pt.	Iron ore	11,800	7,807	5,139
Victoria Maru	17	19.00	18	9.34	18	18.35	19	4.25	Japanese	Kabushiki Kaisha	385.0	51.0	27.6	Portland	Naples	Wheat	7,700	6,250	4,700
Santa Veronica	18	4.00	18	10.42	18	18.08	19	13.45	American	Isthmian Steamship Line	251.0	43.6	22.4	Grays Harbor	Baltimore	Copper, lumber	3,327	2,823	1,740
Essequibo	18	11.45	18	12.52	18	19.19	19	3.35	British	Pacific Steam Navigation Co	450.0	58.0	25.0	Valparaiso	New York	General	3,829	9,009	6,117
Handicap	18	12.45	18	13.25	18	22.00	19	10.35	Norwegian	Struus & Co	415.0	54.7	25.8	San Francisco	Gibraltar[9]	Barley	8,246	7,296	5,445
Bogota	18	13.20	18	14.45	18	23.30	19	13.10	American	Pacific Steam Navigation Co	400.0	52.4	23.0	Valparaiso	Liverpool	General	5,677	5,733	4,015
Kentuckian	18	14.00	18	14.50	19	0.10	19	0.10	American	United American Lines	414.5	53.7	38.0	Seattle	Baltimore	General	9,057	7,049	4,941

[9] For orders.

MOVEMENTS OF OCEAN VESSELS—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
A. L. Kent	18	17.00	19	6.59	19	15.17	19	15.17	American	Crowell & Thurlow	394.1	55.1	26.0	San Francisco	Boston	General, lumber	8,200	7,046	5,030
Steel Worker	19	6.00	19	8.12	19	16.25	19	16.25	American	U. S. Steel Products Co	424.3	56.2	25.10	Vancouver	Boston	General, lumber	7,835	7,611	5,497
Patuxent			19	7.50	19	15.11			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
Chatham	19	5.30	19	9.18	19	18.50	20	0.10	British	Watts, Watts & Co	341.3	43.7	22.0	Iquique	Malaga	Nitrate	5,509	3,986	2,888
Salvador	19	3.30	19	10.03	19	17.15			British	Pacific Steam Navigation Co	215.0	33.3	13.8	San Jose	Cristobal	General	156	1,213	692
Hanna Nielsen	19	6.15	19	10.42	19	18.55	19	23.35	Norwegian	S. Stolt Nielsen & Co	409.6	51.0	24.6	Portland	Cristobal [9]	Wheat	7,699	6,600	5,049
Ganymedes	19	7.00	19	11.32	19	19.50	20	19.37	Holland	Royal Netherlands W. I. Mail	363.0	48.0	20.0	Valparaiso	Amsterdam	General	3,600	4,214	3,123
Afrika	19	8.30	19	12.26	19	20.40	19	20.40	Danish	East Asiatic Co	445.8	60.3	29.3	Vancouver	Copenhagen	General	10,705	9,335	6,874
Santa Tecla	20	11.45	20	12.41	20	19.27	21	11.05	American	Grace Line	298.6	40.0	16.5	Salaverry	New York	General	1,431	2,832	1,803
Lord Ormonde	20	12.05	20	13.53	20	21.45	20	23.25	British	American Metals Trans. Co	360.0	46.0	25.0	Caldera	New York	Copper ore, gen.	6,150	4,563	3,406
Newport	20	11.30	21	7.35	21	14.23			American	Pacific Mail Steamship Co	326.0	38.2	15.6	San Francisco	Cristobal	General	196	3,173	2,163
Clydemede	20	17.00	21	7.58	21	16.20	21	17.50	British	D. and T. C. Adams	390.0	53.3	23.0	Antofagasta	Colon [9]	Nitrate	7,163		
Palm Branch	20	19.00	21	8.24	21	17.35	21	21.38	British	Nautilus Steamship Co	371.0	45.0	24.0	Valparaiso	Liverpool	General	5,250		
Venezuela	21	5.07	21	12.50	21	19.54	22	12.11	American	Pacific Mail Steamship Co	388.0	48.7	22.0	San Francisco	New York	General	2,500	6,033	4,353

[9] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Oct. 15	Turrialba	United Fruit Co	New Orleans via Habana.
Oct. 16	Atenas	United Fruit Co	New Orleans.
Oct. 18	Calamares	United Fruit Co	New York via Habana.
Oct. 18	Metapan	United Fruit Co	New York via Kingston.
Oct. 18	Tivives	United Fruit Co	Colombian ports.
Oct. 19	Turrialba	United Fruit Co	Bocas del Toro.
Oct. 21	San Blas	United Fruit Co	Boston via Habana and Port Limon.
Oct. 21	Shenandoah	The Texas Co	Port Arthur via Porto Lobos.
Oct. 20	Talamanca [10]	United Fruit Co	Colon.

[10] Motor schooner.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Oct. 15	Blue Hill	Lhote Steamship Co	Mobile.
Oct. 15	Adalia	Hamburg-American Line	Port Limon.
Oct. 16	Turrialba	United Fruit Co	Bocas del Toro.
Oct. 17	Atenas	United Fruit Co	New Orleans and wayports.
Oct. 19	Calamares	United Fruit Co	New York via wayports.
Oct. 19	Bolivar	Colombian Government	Cartagena.
Oct. 19	Tivives	United Fruit Co	New York and Jamaica.
Oct. 19	Metapan	United Fruit Co	Colombian ports.
Oct. 19	Turrialba	United Fruit Co	New Orleans.
Oct. 20	Colon	Panama Railroad Steamship Line	New York via Haiti.
Oct. 21	San Blas	United Fruit Co	Boston via Kingston.

PORT OF BALBOA.

Oct. 15	Palena	Chilean Line	Talcahuano.
Oct. 17	Remus	A. O. Lindvig	San Antonio, Chile.
Oct. 19	Regulus	A. O. Lindvig	San Francisco.
Oct. 18	Palena	Chilean Line	Valparaiso.
Oct. 29	Remus	A. O. Lindvig	San Francisco.
Oct. 20	Regulus	A. O. Lindvig	San Antonio, Chile.

* Other than vessels passing through the Canal.

Treatment of Extra Men Added to Crews for Canal Transit.

The Marine Superintendent has issued the following memorandum to the Port Captains, under date of October 16, and furnished copies to the local steamship agencies. It refers to the treatment of the extra men placed on vessels at the Canal to handle lines in the locks, etc.:

There have been several instances in the past few months of vessels mistreating the personnel placed on board for transit, either by not furnishing proper food or in other ways.

Please have the names of all such vessels recorded and when next that vessel appears for transit, take the matter up direct with the master and assure yourself that the personnel will be properly treated before permitting the vessel to transit.

Record Cargo for Motorship Through the Canal.

The Danish motorship *Afrika* of the East Asiatic Co., passing through the Canal on October 19 on her way from Vancouver and San Francisco to Copenhagen via St. Thomas, was carrying a general cargo aggregating 10,200 tons. This is believed to be a record for size of cargo carried through the Canal on a motorship, to date.

The cargo declaration reported 5,200 tons of barley, shipped from San Francisco to London and Hull; 2,000 tons of canned fruit, from San Francisco to various ports; and 3,000 tons of wool, from Vancouver, Portland, and Seattle to Rotterdam, London, and Hull.

The *Afrika* is a ship of 6,713 gross and 4,254 net tons, 446 feet in length by 60 feet beam. She was drawing 29 feet 3 inches of water.

Notice to Mariners.—Flamenco Light, Balboa Harbor.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 12, 1922.

CIRCULAR No. 643–101.

1. The white flashing light referred to in Circular No. 643-100, dated July 5, 1922, has had its position redetermined. Its position is, latitude 8° 54′ 31.28″ North, and longitude 79° 31′ 25.17″ West. No other change.

2. Focal plane 160 feet, visible 20 miles, exhibited from square concrete pedestal, surmounted by lantern, painted white. Color of light, white, with red sector. Characteristic, 0.5 second light, 1.0 second dark; 2.0 seconds light, 1.5 seconds dark (one group of two flashes every 5 seconds). Showing white from 110° to 185°. Red sector from 185° to 283°. Owing to the background the light will not be visible from 283° to 110° through North. Sectors given are measured from the light.

(C. & G. Charts Nos. 952 and 953. H. O. Charts Nos. 1019, 1176, and 5001. H. O. Publication No. 30.)

M. L. WALKER,
Acting Governor.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the two weeks ended October 21:

Motorship *Adrien Badin*, perform miscellaneous repairs to engine, including 8 cylinders, rocker studs, valve stem guides, piston rings, copper gaskets, grinding and reseating valves, manufacturing miscellaneous plugs, nuts, keys; repair fresh water tanks; manufacture and install 6 hardwood cleats on main rail, manufacture and install 2 anchor plates on top of pilot house for securing awning stays, installation of bracket and pipe stand for galley smoke stack; remove elbow in main exhaust, install 8-inch tee; steamships *El Cicuta*, clean bilges, remove ashes from fire room, repair fire doors, ash doors, dampers of main boilers and patch air duct of starboard boilers, repair feed pump, blower engine, high power cylinder head; manufacture new follower bolts for cylinder head, and piston rod gland and nut for dynamo engine; *Delaware*, repair one 5-inch copper pipe; U. S. submarine *O–14*, dock, stage, and clean, paint and other routine docking repairs. Steamship *Brush*, dismantle, weld, and reinstall forward maneuvering throttle, repair reverse maneuvering throttle; U. S S. *Sirius*, minor repairs to blower engine and boiler tubes; *L–55*, remove from rocks, tow to Balboa shops, place on docks, and remove engine and hull sheathing in way of damages.

PREVIOUSLY REPORTED.

Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck houses: U. S. submarine *O–16*, general running repairs and alterations; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge; repairs to damaged rudder; barge *No. 136*, dry dock, paint, and miscellaneous repairs. Motorship *Adrien Badin*, miscellaneous heavy operating repairs; steamship *El Cicuta*, miscellaneous operating repairs; U. S. submarine *O–14*, dock and routine repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull machinery and deckhouses; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge, rudder and miscellaneous minor repairs; barge *No. 136*, dry dock, paint, and miscellaneous repairs.

The following vessels were at the Cristobal shops for repairs during the two weeks ended October 21:

Motor schooner *Laura C. Hall*, remove old fuel tanks and install four tanks; test tanks and paint with red lead; repair deck, etc. ; steamships *Perou*, electric weld boiler as directed; *Amsterdam*, manufacture new iron pipe and cut joint on copper pipe; *San Lamberto*, manufacture new parts for and repair steering gear; *Salvador*, manufacture 2 refrigerator compressor piston rods; renew overflow pipes for No. 1 and fore peak tanks; repair cargo scales, gin block, and accommodation ladder platform; schooner *Talamanca*, lift stern and renew tail shaft; steamships *Colon*, repair leaks in No. 2 tank; scale and paint holds; *General W. C. Gorgas*, patch life boat and furnish 6 men for scaling as directed; *Great City*, manufacture 4 hatch tarpaulins; U. S. S. *O–12*, renew plates in superstructure and superstructure deck where necessary; remove hydroplanes and patch hull; make minor structural repairs; take stern tube and strut bearing clearances and repack stern tube glands; calibrate gauges; install larger bow planes; renew parts of worn duct on engine air induction, motor room air induction and battery ventilation ducts in superstructure; renew bridge deck abaft conning tower hatch; clean and test air flasks, etc.; steamships *Cardiganshire*, *Jason*, *Balboa*, *Eten*, *Bluehill*, and *Delaware*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending October 21, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Adalia	Hamburg-American Line		October 15		7
Turrialba	United Fruit Co	October 15	October 16	(1)	166
Santa Paula	Pacific Mail Steamship Co	October 15	October 16	257	44
Ocean Prince	Prince Line	October 16	October 16	(1)	18
Atenas	United Fruit Co	October 16	October 17	432	(2)
Balboa	Colombian Maritime Co		October 17		76
Laura C. Hall	Pacific Metals Corp		October 18		59
Huallago	Peruvian Line	October 16	October 19	924	247
Amsterdam	Royal Netherlands W. I. Mail	October 18	October 19	137	(2)
Hermes	Royal Netherlands W. I. Mail	October 18	October 19	115	74
Bogata	Pacific Steam Navigation Co	October 18	October 19	(1)	200
Essequibo	Pacific Steam Navigation Co	October 18	October 19	1½	(2)
Metapan	United Fruit Co	October 18	October 19	186	304
Calamares	United Fruit Co	October 18	October 19	354	56
Edgemoor	U. S. Government	October 18	October 20	98	4
Ganymedes	Royal Netherlands W. I. Mail	October 19	October 20	290	4
Salvador	Pacific Steam Navigation Co	October 19		156	....
Turrialba	United Fruit Co	October 19	October 19	1	96
Tivives	United Fruit Co	October 19	October 19	3	¼
Manavi	Pacific Steam Navigation Co	October 19	October 21	(1)	238
Colon	Panama Railroad Steamship Line		October 20		2,665
Santa Teela	Grace Line	October 20	October 21	88	(2)
Lobos	Pacific Steam Navigation Co	October 20	October 21	346	168
San Blas	United Fruit Co	October 21	October 21	10	198
Newport	Pacific Mail Steamship Co	October 21		188	
Venezuela	Pacific Mail Steamship Co	October 21		132	
Shenandoah	Texas Oil Co	October 21		9,868	

[1] No cargo discharged. [2] No cargo laded.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending October 21, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Urubamba	Peruvian Line	October 8	October 8	3	
Ecuador	Pacific Mail Steamship Co	October 8	October 8		71
Aysen	South American Line	October 8	October 9	70	
Laura C. Hall	Pacific Metals Trans. Co., Ltd	October 9	October 9	5	
Alvarado	Pacific Steam Navigation Co	October 13	October 13	5	
Palena	Chilean Line	October 15	October 18	43	165
U. S. S. Sirius	U. S. Navy	October 16		5	
Remus	A. O. Lindvig	October 17	October 20	12	1,614
Laura C. Hall	Pacific Metals Transportation Co.	October 18	October 18		57
Salvador	Pacific Steam Navigation Co	October 19	October 19	12	
Regulus	Latin-American Line	October 19	October 20	96	
Newport	Pacific Mail Steamship Co	October 20	October 21	61	
Venezuela	Pacific Mail Steamship Co	October 21	October 21	68	
Manavi	Pacific Steam Navigation Co	October 21	October 21		35

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective October 25, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.11
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.40
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine, gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.09
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.15

Delivery of Liquors to American Ships in Canal Zone Waters Prohibited.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 17, 1922.

To all concerned.—1. The following notice has been issued by the Treasury Department:

"The provisions of the National Prohibition Act are applicable to United States vessels leaving foreign ports after October 14, and to foreign vessels leaving foreign ports after that date on coming within the territorial waters of the United States. All sales of beverage liquors on United States vessels anywhere, and on foreign vessels within the territorial waters of the United States, are unlawful after October 7. This notice does not apply to foreign vessels passing through the Panama Canal and not touching any other port under the jurisdiction of the United States."

2. Since receipt of the above instructions, the following amendment thereto has been received:

"Because of pending injunctions and in order to give full time for compliance with the terms of the opinion of the Attorney General to the effect that transportation and

sale of liquors on American ships and foreign ships in the territorial waters of the United States are unlawful, time for compliance therewith hereby extended from October 14 to October 21, inclusive, as applicable to foreign vessels leaving their home ports or American vessels leaving foreign ports on or before October 14."

3. The above is published for the information of all steamship lines.

4. Effective at once as the result of the opinion of the Attorney General of the United States (dated October 6, 1922) ruling that the transportation or sale of liquors on American ships anywhere whether privately or government owned is illegal, the delivery of liquors to American ships in Canal Zone waters is prohibited.

M. L. WALKER,
Acting Governor.

Announcement.—Navy Day, October 27, 1922.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 19, 1922.

The Navy League of the United States of America has designated Friday, October 27, 1922, "Navy Day" a day upon which all citizens of the United States are asked to have our Navy in mind and give grateful thought to the vast service rendered our country, continuously since the beginning of our history, by the splendid men who have made up, and who now constitute, this branch of government.

The Navy is not a thing apart from the vast body of American citizens as some are often led to believe by statements appearing in the press and made in the heat of political debate. All walks of American life are represented in our Navy and nothing could be more a thing "of the people, for the people, and by the people." The Navy is composed of our blood kinsmen who have dedicated themselves to the defence of our native land, and should receive from all the heartiest cooperation and support.

All residents of the Canal Zone are urged, on this day set apart, to give serious thought to our Navy and our naval needs and to evidence this interest by cooperating with the local naval contingent in any exercises that may take place to mark this day.

M. L. WALKER,
Acting Governor.

Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	Check No.	Native of—	Isthmian residence.	Employed by—	Date of death.
Joseph Emanuel Phillips, alias Thomas Crawford Phillips, alias Thomas Crawford	22400	Barbados	Panama	R. & F. Agency	September 26, 1922.
Edwin Farmer, alias Edward Farmer	21343	St. Thomas	Colon	Supply Department	October 5, 1922.
Arnold Walker	25826	Barbados	Colon	R. and F. Agency	September 27, 1922.

Official Circulars.

Appointment.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 17, 1922.

CIRCULAR No. 661-108:

Effective this date, Commander R. S. Culp, U. S. N., is appointed Captain of the Port, Cristobal, C. Z., and Chairman, Board of Local Inspectors, *vice* Commander F. V. McNair, U. S. N., relieved from duty with The Panama Canal.

M. L. WALKER,
Acting Governor.

Acting Marine Superintendent.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 20, 1922.

To all concerned—Effective this date and during the absence on leave of Capt. E. P. Jessop, U. S. N., Commander R. S. Culp, U. S. N., in addition to his duties as Port Captain, Cristobal, will be Acting Marine Superintendent, The Panama Canal.

M. L. WALKER,
Acting Governor.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, $1.50 per year; foreign, $2.00; address The Panama Canal Record, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., November 1, 1922. No. 12.

October Traffic Sets New High Record.

Exceeding the tolls collected during any previous month by approximately $150,000, and making the fourth consecutive month in which the amount of tolls collected has exceeded $1,000,000, a new high record for commercial traffic through the Canal was established during the month of October when 294 vessels transited the Canal, on which tolls of $1,255,508 were collected. In addition, 5 launches paid tolls aggregating $12.15.

The detail of the traffic for the month is shown by the following:

	Commercial vessels.	Small launches, etc. (nonsea-going craft.)	United States Government vessels.
Atlantic to Pacific:			
Number of ships	159	5	13
Tolls paid	$657,837.91	$12.15	(Free)
Pacific to Atlantic:			
Number of ships	135	.....	7
Tolls paid	$597,670.09	.....	(Free)
Total, both directions:			
Number of ships	294	5	20
Tolls paid	$1,255,508.00	$12.15	(Free)

October's record of 294 commercial vessels through the Canal exceeds by 15 vessels the former high record of 279 vessels established in January, 1921. The October tolls of $1,255,508 on commercial ships exceeded by $149,971.45 the previous high record of $1,105,536.55 established in March, 1921.

Tolls collected on commercial vessels during the first 4 months of the present fiscal year average $1,106,259.18, which is slightly in excess of tolls collected during any month since the Canal was opened to traffic with the exception of the month just closed.

A graph showing October tolls collected since 1914 is shown on page 159.

Largest Cargo Carried Through the Canal.

The tank steamship *William Rockefeller*, operated by the Standard Oil Co. of New Jersey, made the transit of the Canal on October 27 with a cargo of crude oil reported as 22,000 tons. The vessel was bound from Los Angeles to New York.

This is the largest cargo carried through the Canal on any ship to date. The previous record was 20,000 tons, made on July 19, 1922, by the steamer *Marore*, carrying iron ore.

The *William Rockefeller* is 555 feet in length by 75 feet 3 inches beam, of 14,055 gross and 8,777 tons, United States registry measurement, and 10,313 net tons, Panama Canal measurement. The draft of the ship was 31 feet 6 inches. Tolls for the transit amounted to $10,971.25, equivalent to 49.8 cents per ton of cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 28, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Sabine Sun	21	14.05	22	6.15	22	13.31	22	14.53	American	Sun Co	429.3	59.2	19.0	Chester	Los Angeles	Ballast		7,898	5,459
Trevarrack	21	10.35	22	7.15	22	14.22	22	15.25	British	Hain Steamship Co	400.0	52.0	25.3	Puerto Mexico	Auckland	General	6,500	5,801	4,076
Dakotan	22	1.30	22	8.15	22	15.31	22	16.33	American	American-Hawaiian Line	407.7	53.7	22.10	New York	Los Angeles	General	5,157	7,156	5,058
Argosy	22	4.18	22	10.25	22	16.54	22	17.50	American	Wessel Duval & Co. (S. B.)	390.0	54.0	18.2	New York	Paita	General	794	6,203	4,280
Saint Jean	21	22.17	22	11.14	22	17.41	22	18.45	French	French Line	415.0	50.3	16.0	Havre	Valparaiso	General	387	5,849	4,081
Talamanca [1]	20		22		22	8.19			American	United Fruit Co				Cristobal	Gatun Lake	Ballast		1	1
Tuscanstar	23	2.05	23	6.53	23	14.09	23	15.50	British	Blue Star Line, Ltd	420.0	54.0	20.1	Santiago	Vancouver	Sugar	3,100	7,365	5,867
Felix Taussig	23	4.27	23	7.38	23	14.54	23	15.55	American	Crowell & Thurlow	395.0	55.1	25.0	Boston	Seattle	General, steel	4,396	6,594	4,503
Cepolis	23	7.43	23	8.40	23	15.43	23	20.30	British	Anglo-Saxon Petroleum Co	400.0	52.3	17.6	Lisbon	Los Angeles	Ballast		6,035	3,917
Long Beach	23	7.35	23	9.35	23	16.38	23	18.35	American	Long Beach Steamship Corp	318.1	41.3	21.10	New Orleans	Seattle	General	2,993	3,195	2,085
Patuxent [2]	19	15.11	23	9.28	23	16.44			American	U. S. Navy	156.0	24.0		Cristobal	Balboa				
Raifuku Maru	23	6.50	23	10.30	23	17.32	23	18.35	Japanese	Kokusai Kisen Kaisha	385.0	51.0	25.3	New York	Yokohama	General, steel	4,821	5,933	4,559
Kewanee	23	7.38	23	11.15	23	18.15	23	17.38	American	Associated Oil Co	318.4	46.0	18.6	Mobile	San Francisco	Ballast		3,660	2,268
Indiana	23	6.55	24	6.15	24	13.52	24	15.07	French	French Line	417.0	55.0	20.0	Havre	Vancouver	General	1,712	7,157	4,936
Chuky	24	6.37	24	7.40	24	15.25	24	17.28	British	Sheridan Steamship Co	440.8	56.1	26.4	Tampico	Tocopilla	Fuel oil	9,357	7,636	4,942
Santa Elisa	25	11.45	26	6.08	26	13.35	26	16.33	American	Grace Line	360.3	51.7	22.6	New York	Talcahuano	General	1,609	5,957	4,325
Salvador	19	17.15	26	5.58	26	14.05	26	17.30	British	Pacific Steam Navigation Co	215.0	33.5	16.6	Cristobal	Champerico	General	1,053	1,213	692
Argonne [3]	25	13.05	26	7.20	26	14.56	28	22.05	American	U. S. Navy	448.0	58.0	22.0	Philadelphia	San Francisco	Naval supplies	363	8,407	5,212
Celebes Maru	26	2.30	26	8.25	26	16.03	26	17.40	Japanese	Osaka Shosen Kaisha	385.0	51.0	27.0	Port Arthur	Yokohama	General, case oil	6,323	6,014	4,406
Commercial Pathfinder	26	8.30	26	8.45	26	16.42	27	1.38	American	Osage Steamship Co	395.1	49.4	24.0	Norfolk	San Diego	General, coal	6,685	5,220	3,734
Trelyon	26	6.55	26	10.40	26	17.39	26	19.05	British	Hain Steamship Co	400.0	52.4	22.2	Norfolk	Auckland	General	3,400	5,803	4,100
Newport	21	14.23	26	11.00	26	18.10	27	13.50	American	Pacific Mail Steamship Co	326.0	38.2	16.6	Cristobal	San Francisco	General	738	3,173	2,163
Scalaria	26	11.52	26	12.00	26	19.02	26	23.47	British	Anglo-Saxon Petroleum Co	411.5	53.4	20.0	Rotterdam	San Francisco	Ballast		6,118	4,306
President Leguia	24	20.50	27	6.20	27	13.37	27	15.05	Peruvian	Gaige Sevilla	312.3	49.6	21.0	Iquitos	Callao	General, lumber	2,395	3,651	2,787
Chester Sun	26	15.18	27	7.30	27	14.35	27	15.50	American	Sun Co	429.0	59.0	18.0	Chester	Los Angeles	Ballast		7,684	5,299
Trematon	26	13.40	27	8.15	27	15.31	27	16.55	British	E. Hain & Sons	400.0	52.0	24.6	New Orleans	Sydney	Sulphur, general	5,380	5,778	4,033
Colombia	27	9.40	28	6.35	28	13.41	28	21.35	American	Pacific Mail Steamship Co	380.0	48.7	22.2	Baltimore	San Francisco	General	2,030	6,015	4,281
Gratia [4]	25	18.15	28	6.42	28	16.01	28	17.30	American	Braddock Navigation Co	249.0	38.0	17.6	Pensacola	Honolulu	Cast iron pipes	1,745	1,630	1,493
Kamoi [5]	28	8.02	28	8.27	28	16.47			Japanese	Japanese Government	478.7	67.3	26.0	Vera Cruz	Yokohama	Fuel oil	7,000	10,915	6,437

[1] Motor schooner. [2] Tug. [3] Transport. [4] Bark. [5] Japanese Navy tanker.

THROUGH THE CANAL—PACIFIC TO ATLANTIC

Yuri Maru	21	22.00	22	8.01	22	15.27	22	18.30	Japanese	Kokusai Kisen Kabushiki Kaisha	425.0	54.0	27.5	Portland	Colon[7]	General	8,240	5,650	4,071
Cape Ortegal	22	5.00	22	8.46	22	16.00	22	16.00	British	Lyle Steamship Co	405.0	52.4	25.0	Iquique	Norfolk[7]	Nitrate	7,400	6,909	5,147
Herakles	22	15.05	23	7.04	23	14.40	23	14.40	Norwegian	Bruusgaard Kirusterud	389.8	54.1	25.0	Taltal	Colon[7]	Nitrate	8,000	5,680	4,220
O-13[6]			23	7.06	23	14.23			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
Kinderdijk	23	3.00	23	8.26	23	16.20	23	19.22	Dutch	Holland-American Line	469.5	58.4	26.0	Tacoma	Rotterdam	General	8,326	8,515	6,068
Stanley Dollar	23	4.30	23	9.26	23	17.15	23	20.30	American	Robert Dollar Line	288.8	44.6	23.3	Port Alice	New York	General, lumber	4,000	3,460	2,404
Edgar F. Luckenbach	23	11.00	23	11.44	23	18.56	23	21.30	American	Luckenbach Line	425.0	57.3	26.0	Portland	Boston	General, lumber	7,000	8,5[illegible]8	6,705
San Eduardo	24	2.00	24	7.40	24	15.00	24	17.10	British	Eagle Oil Transportation	420.0	54.6	17.0	Antofagasta	Tampico	Ballast		6,390	4,382
Sirus	16	19.45	24	8.55	24	16.53	24	22.32	American	U. S. Navy	401.0	54.0	17.0	San Diego	Hampton R'ds	General for Navy	404		
Almagro	24	7.00	24	9.50	24	17.10	25	15.53	British	Pacific Steam Navigation Co	303.0	43.0	15.0	Guayaquil	New York	General	408	2,878	1,714
Montana	24	9.00	24	10.44	24	18.20	24	21.00	French	French Line	410.7	51.0	27.0	Iquique	Bordeaux	General	6,562	6,327	4,369
Harry Luckenbach	24	14.15	24	14.58	24	21.50	25	7.46	American	Luckenbach Line	448.9	60.2	28.6	Pacific ports	New York	General	8,500	9,262	6,854
Great City	25	6.59	25	7.45	25	16.05	25	18.10	British	W. R. Smith & Son, Ltd	420.0	57.0	26.0	Portland	Falmouth[7]	Wheat	9,827	7,029	5,478
Tosca	24	21.30	25	8.31	25	15.45	25	18.10	Norwegian	Wingi & Co	375.8	51.4	26.0	Lavuka Fiji	Rotterdam	Copra and shells	4,514	5,685	3,930
Ipswick	25	8.00	25	10.00	25	16.45	25	16.45	American	United American Lines	407.0	54.2	26.0	Bellingham	New Orleans	General, lumber	7,262	6,616	4,614
Bologna	25	9.00	25	10.55	25	18.07	28	15.42	Italian	Italian Line	384.9	46.7	20.6	Valparaiso	Genoa	General	1,975	5,531	3,773
Balboa	25	14.10	25	14.43	25	20.35			American	Colombian Maritime Co	109.0	29.1	11.0	Tumaco	Cristobal	General	164	736	335
Benefactor	26	8.00	26	9.27	26	16.41	26	17.25	British	T. and J. Harrison	410.7	53.0	26.2	Vancouver	London	General	6,640	6,313	4,322
Karachi Maru	26	11.20	26	12.44	26	23.00	26	20.23	Japanese	Kokusai Kisen Kabushiki Kaisha	385.0	51.0	26.0	Astoria	United King'm	Wheat	7,700	5,914	4,388
Mantaro	26	6.00	26	13.38	26	21.50			Peruvian	Peruvian Line	367.3	46.0	16.0	Ilo	Cristobal	General	1,080	4,839	2,959
Oriana	27		27	7.55	27	14.50	27	18.25	British	Pacific Steam Navigation Co	465.0	56.0		Valparaiso	Liverpool	General	5,367	8,620	5,345
Wundelta	27	9.08	27	9.46	27	18.03	28	3.20	American	Munson Line	370.0	53.0	26.0	Aberdeen	New York	Lumber	4,450	5,668	4,297
William Rockefeller	27	14.10	27	15.01	27	23.20	27	23.15	American	Standard Oil Co	554.9	75.3	31.6	Los Angeles	New York	Oil	22,000	14,785	10,330
J. N. Pew	27	16.00	28	6.02	28	15.10	28	15.10	American	Sun Company	480.5	66.0	29.6	Los Angeles	Philadelphia	Oil	13,290	9,494	6,612
Steel Navigator	28	2.30	28	7.54	28	16.00	28	22.45	American	Isthmian Steamship Line	424.2	56.2	25.10	Vancouver	London	General	8,090	7,611	5,454
Aconcagua	28	8.00	28	8.59	28	16.15	29	0.22	Chilean	Chilean Line	422.8	56.2	26.4	Valparaiso	New York	General	5,149	7,758	4,705

[6] Submarine. [7] For orders. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
October 22	Cartago	United Fruit Co	New Orleans via Habana.
October 22	Nessian	Leyland Line	Liverpool via wayports.
October 23	Solana	Pacific Mail Steamship Co	Tampico.
October 23	Heredia	United Fruit Co	New Orleans.
October 23	Gen. G. W. Goethals.	Panama Railroad Steamship Line	New York via Haiti.
October 24	Pastores	United Fruit Co	New York via Habana.
October 24	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.
October 24	San Gil	United Fruit Co	Boston via Habana.
October 25	Camden	United Fruit Co	Tampico.

*DEPARTURES.

Date.	Vessel.	Line.	For—
October 3	Arabia[8]	Panama Plantation Syndicate	Colon.
October 23	Cartago	United Fruit Co	New Orleans via wayports.
October 24	Nessian	Leyland Line	New Orleans.
October 24	Solana	Pacific Mail Steamship Co	Tampico.
October 23	Shenandoah	The Texas Co	Tampico.
October 25	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
October 25	Pastores	United Fruit Co	New York via wayports.
October 25	Heredia	United Fruit Co	New Orleans via wayports.
October 26	Sixaola	United Fruit Co	Colombian ports.

[8] Motor schooner.

(Continued on page 162, column 2.)

Many Large Cargoes Through Canal During October.

Fifteen ships, carrying over 10,000 tons of cargo each, made the transit of the Panama Canal during the period from October 2 to October 31, inclusive. Thirteen of the vessels were bound from Pacific to Atlantic ports, and 2 from Atlantic to Pacific.

The vessels are grouped by nature of cargo in the following tabulation, which shows the names of vessels, date of transit, character of cargo, and points of origin and destination:

Name of vessel.	Date of transit.	Tons of cargo.	Character of cargo.	Bound from—	Bound to—
Swiftstar	October 2.	10,132	Crude oil	Wilmington, Cal.	Fall River, Mass
Ardmore	October 8.	10,660	Crude oil	Talara, Peru	New York.
Sunbeam	October 15.	10,752	Crude oil	Los Angeles	Chester, Pa.
J. N. Pew	October 27.	13,291	Crude oil	Los Angeles	Philadelphia.
William Rockefeller	October 27.	22,000	Crude oil	Los Angeles	New York.
William G. Warden	October 29.	15,240	Crude oil	Los Angeles	New York.
Sylvan Arrow	October 8.	11,490	Refined oils	Beaumont	Shanghai.
D. G. Schofield	October 30.	11,240	Lubricating oil	San Francisco	Philadelphia.
Mexican	October 8.	10,634	General merchandise	Seattle	Liverpool.
Afrika	October 19.	10,700	General merchandise	Vancouver	Copenhagen.
Lorenzo	October 15.	11,000	General merchandise	New York	Brisbane.
Alaskan	October 31.	10,174	General merchandise	Seattle	Hamburg.
Marore	October 13.	20,000	Iron ore	Cruz Grande	New York.
Santore	October 17.	11,800	Iron ore	Cruz Grande	New York.
G. Harrison Smith	October 30.	20,000	Iron ore	Cruz Grande	New York.

The total cargo carried by the 15 vessels listed above was 199,023 long tons. This was an average of 13,268 tons per vessel.

In the fiscal year ending June 30, 1922, the number of commercial ships passing through the Canal was 2,736, of which 263 were in ballast; the laden ships, numbering 2,473, carried a total of 10,884,910 tons of cargo. This was an average of 4,401.5 tons per laden ship.

The average cargo of the 15 ships listed above was, accordingly, about three times the average cargo of ships in the last fiscal year; and the cargo of the *William Rockefeller* was equivalent to the total carried by 5 ships of average loading.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repair during the week ended October 28:

Tugs *Gatun*, dock, stage and clean, paint under water body, repair stern bushing and sea valves; *Bohio*, dock, stage and clean, paint under water body, repair sea valves; crane boat *La Valley*, dock, stage and clean, paint under water body, spot scale and general repairs as follows: relocate dynamo engine; install 3 new blades on propeller; remove and reinstall steering engine; install pumps, heaters, tanks, piping, etc. for oil burning system; manufacture and install uptakes to suit installation of new boiler; manufacture and install new 12″ ventilator on galley; remodel rudder; renew deck from forward end to boiler room hatch, astern, port and starboard; install fender as required; renew fuel deck and house; build new deck house and paint interior; make miscellaneous minor repairs and alterations to conform with general repairs above listed.

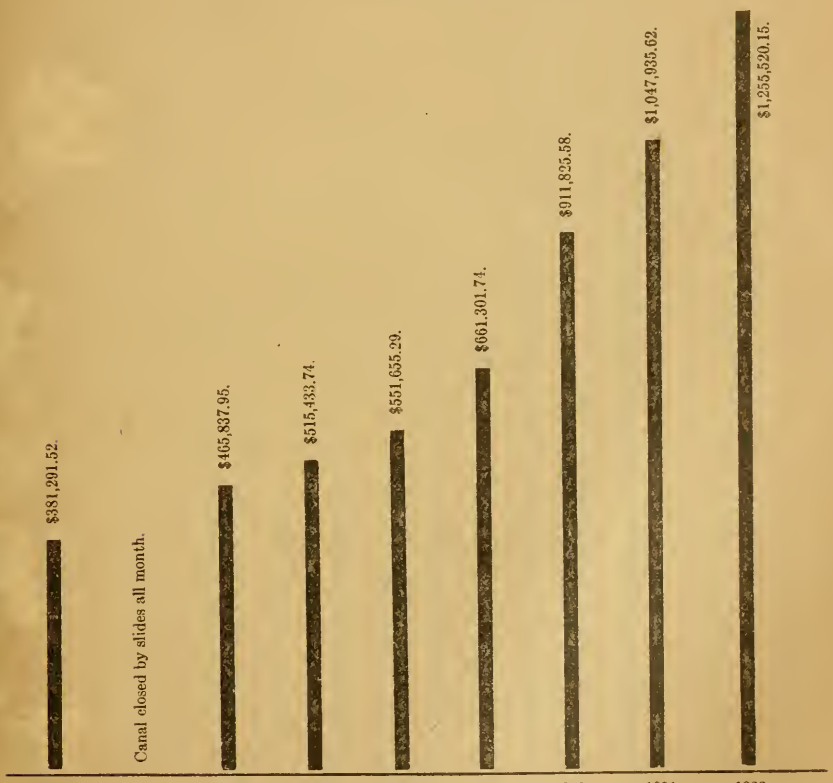
PREVIOUSLY REPORTED.

Steamship *Brush*, dismantle, weld, and reinstall forward maneuvering throttle, repair reverse maneuvering throttle; U. S. S. *Serius*, minor repairs to blower engine and boiler tubes; *L-55*, remove from rocks, tow to Balboa shops, place on docks, and remove engine and hull sheathing in way of damages; U. S. submarine *O-14*, dock and routine repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull machinery and deck houses; dredge *Mexico*, repairs to damaged shell plates on bottom of dredge rudder and miscellaneous minor repairs; barge *No. 136*, dry dock, paint, and miscellaneous repairs.

The following vessels were at the Cristobal shops for repairs during the week ended October 28:

Steamships *Stuyvesant*, repair steam line gaskets; repair copper pipes, fresh water pump valve; manufactured new Weir pump valve seat and pump bracket stud, etc.; *Parismina*, remetal guide for main engine; *Balboa*, repair lifeboats, 2 feed pipes and deck; manufacture 2 main feed valves and 2 stems, 2 fire door bars, 4 bearing bars, 8 fire door liners, and 2 ash buckets, etc.; yacht *Floriana*, manufacture new awning of heavy canvas and repair tender; steamships *Cristobal*, scale boilers; remetal L. P. crank pin brass; install new drains from 2 forward hoisters, etc.; *General W. C. Gorgas*, furnish 6 men for scaling as directed by chief officer; repair lifeboat; manufacture new valve stem for dynamo engine; tugs *Engineer*, manufacture new valve stem for bottom blow; manufacture 2 plungers for feed pump and 20 boiler zincs; *Tavernilla*, make new pin and bushing for feed pumps; steamships *Chuky*, *Camden*, *Presidente Leguia*, and schooner *Arabia*, minor repairs.

Graph Showing October Tolls Since 1914.



Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending October 28, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Almagro	Pacific Steam Navigation Co	October 24	October 24	1	
Anatina	Anglo-Saxon Petroleum Co	October 24	October 25	6,879	
Newport	Pacific Mail Steamship Co	October 26	October 26		3
Rosana	Alberto Fait	October 26		200	
Colombia	Pacific Mail Steamship Co	October 28	October 28	5	
Memnon	General Steamship Corporation	October 28		789	

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending October 28, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Venezuela	Pacific Mail Steamship Co.	.....	October 22	.....	99
Cartago	United Fruit Co.	October 22	October 23	(1)	142
Nessian	Leyland Line	October 22	October 24	703	222
Indiana	French Line	October 23	October 24	90	(2)
Kinderdijk	Holland-American Line	October 23	October 23	(1)	8
Gen. W. C. Gorgas	Panama Railroad Steamship Line	October 23	.....	1,595	.....
Solana	Pacific Mail Steamship Co.	October 23	October 24	9,000	(2)
Heredia	United Fruit Co.	October 23	October 25	1,412	(2)
Montana	French Line	October 24	October 24	9	(2)
Pastores	United Fruit Co.	October 24	October 25	101	287
Almagro	Pacific Steam Navigation Co.	October 24	October 25	398	52
Stuyvesant	Royal Netherlands W. I. Mail	October 24	October 25	41	(2)
San Gil	United Fruit Co.	October 24	October 26	23	8
Haiti	French Line	October 25	October 26	35	525
Salvador	Pacific Steam Navigation Co.	.....	October 26	.....	1,074
Newport	Pacific Mail Steamship Co.	.....	October 26	.....	741
Balboa	Colombian Maritime Co.	October 25	.....	164	.....
Camden	United Fruit Co.	October 25	October 27	9,205	(2)
Cristobal	Panama Railroad Steamship Line	October 25	.....	9,485	.....
Bologna	Italian Line	October 25	October 28	(1)	774½
Sixaola	United Fruit Co.	October 25	October 26	90	218
Metapan	United Fruit Co.	October 26	October 26	(3)	26
Mantaro	Peruvian Line	October 26	October 26	1,125	.....
Oriana	Pacific Steam Navigation Co.	October 27	October 27	(1)	4
Adalia	Hamburg-American Line	October 27	October 27	12	1
Colombia	Pacific Mail Steamship Line	October 27	October 28	116	19
Bayano	Elders & Fyffes, Ltd.	October 28	October 28	16	(2)
Columbia	N. O. & S. A. S. S. Line	October 28	.....	848	.....

[1] No cargo discharged. [2] No cargo laded. [3] 115 pounds.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective October 31, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.11
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.40
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine, gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.15

The Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Maximum Discharge from Spillway Since Opening of Canal.

Eight of the 14 gates of the spillway of Gatun Lake were opened at the same time during experiments conducted on October 27. This gave the greatest discharge since the completion of the Canal. The discharge was estimated at about 104,000 cubic feet per second. This is equivalent to approximately 775,000 gallons per second (or over 46,000,000 gallons per minute). In the past 8 years, 6 and 7 gates have readily taken care of necessary spilling to prevent the surface from rising to a level higher than desired, and it is likely that the necessity for using 8 gates or more will be very rare.

The use of 8 gates was simply for experimental purposes, as the use of one gate during from about 12 to 18 hours is usually sufficient to discharge the normal surplus at this time. The object of the experiments was to ascertain the best combination of gates to allow a heavy discharge without affecting seriously the operation of the adjacent hydroelectric station through the action of backwater in the tail race; without causing water to leap over the opposite or west wall of the discharge channel; and without allowing a dangerous concentration of rushing water against any of the piers of the railroad bridge across the discharge channel.

It was found that by selecting gates so that the discharge currents counteracted upon each other, 8 could discharge simultaneously without serious effect, and probably 10. The capacity of the hydroelectric station was reduced temporarily about 15 per cent by the height of water in the discharge channel. The west wall of the discharge channel, and the piers of the bridge were not damaged.

Records were made of the currents set up near Gatun Locks, moving toward the spillway as the result of the abnormal discharge. A maximum current of .6 knot was observed at a depth of 5 feet below the surface, and a maximum of .24 knot at 15 feet below the surface.

The spectacle of the waterfall attracted a crowd of about 2,000 spectators.

The rate of discharge can be imagined from the fact that for the entire year 1921 the water used for supplying the cities of Panama and Colon and all of the Canal Zone municipal systems and in leakages at spillways and locks, aggregated 1,670,000,000 cubic feet. In the experiments at the spillway 535,000,000 cubic feet were discharged in 2 hours—enough for the municipal uses for 4 months.

The discharge of the American falls at Niagara is approximately the same as that of one spillway gate. The total discharge at Niagara of Canadian and American falls is reported as 280,000 cubic feet per second. The Niagara discharge is 2.7 times that at Gatun with the 8 gates open, at elevation plus 87 feet.

Observance of Navy Day.

OFFICE OF THE COMMANDANT, FIFTEENTH NAVAL DISTRICT,
BALBOA C. Z., October 30, 1922.

FROM: Commandant.
TO: Governor, The Panama Canal.
SUBJECT: Observance of Navy Day.

1. The Commandant of the Fifteenth Naval District takes this opportunity to express his thanks and appreciation for the cooperation shown by the various Panama Canal departments under your direction which was so largely responsible in making the observance of Navy Day on the Canal Zone a success.

M. M. TAYLOR.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 157.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
October 25	Sixaola	United Fruit Co.	New York via Kingston.
October 25	Haiti	French Line	St. Nazaire and wayport.
October 25	Cristobal	Panama Railroad Steamship Line.	Norfolk.
October 25	Metapan	United Fruit Co.	Colombian ports.
October 27	Adalia	Hamburg-American Line	Port Limon.
October 27	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
October 28	Bayano	Elders & Fyffes, Ltd.	Port Limon.
October 28	Savannah[9]	U. S. Navy	Guantanamo.
October 27	R-21, 23, 24, 25, 26 and 27[10]	U. S. Navy	Guantanamo.
October 28	Columbia	N. O. & S. A. S. S. Line	New Orleans via Porto Colombia.

*DEPARTURES.

Date.	Vessel.	Line.	For—
October 26	Metapan	United Fruit Co.	New York via Kingston.
October 26	San Gil	United Fruit Co.	Boston via Port Limon.
October 26	Haiti	French Line	St. Nazaire and wayports.
October 27	Talamanca[11]	United Fruit Co.	Colon.
October 27	Camden	United Fruit Co.	Tampico.
October 27	Adalia	Hamburg-American Line	Cartagena.
October 28	Bayano	Elders & Fyffes, Ltd.	Kingston.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
October 23	Anatina	Anglo-Saxon Petroleum Co.	San Francisco.
October 26	Rosana	Alberto Fait & Co.	Punta Arenas, C. R.

Date.	Vessel.	Line.	For—
October 25	Anatina	Anglo-Saxon Petroleum Co.	San Francisco.

[9] Submarine tender. [10] Submarines. [11] Motor schooner. * Other than vessels passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., November 8, 1922. No. 13.

Oil Shipments from California.

The first shipment of crude petroleum from California through the Canal since January 1, 1921, was on September 5, 1922, when the British tanker *Amalthus* transited the Canal with 7,400 tons of crude petroleum enroute from Los Angeles to Curacao, Dutch West Indies. This shipment was followed by several others during the month, the aggregate for September totaling 58,066 tons of crude petroleum and 17,826 tons of refined mineral oils.

During October oil shipments from California showed a considerable increase over September; 75,915 tons of crude oil and 16,149 tons of lubricating oil which had originated at California ports, made the transit through the Canal.

The decline in the production of the Mexican oil fields is primarily responsible for the beginning at this time of the movement of California oil through the Canal. At present, several of the world's largest tankers are engaged in this trade, and the traffic during the past 2 months marks the beginning of what bids fair to become one of the most important movements of any commodity through the Canal.

Wheat and Barley Shipments During October.

Shipments of wheat, which had been unusually light during the months of August and September, totaled 119,535 tons during October. With the exception of the months of July, 1922, and October, 1921, when 137,737 tons and 128,375 tons, respectively, passed through the Canal, the past month shows the greatest movement of wheat through the Canal since detailed commodity statistics were begun, January 1, 1921. With the exception of one shipment of 7,506 tons to Algiers, northern Africa, all of the above was routed to Great Britain and Continental Europe.

Shipments of barley totaled 65,544 tons for the month, and were the largest since October of last year, when 67,092 tons passed through the Canal. Of last month's shipments, all originated on the west coast of the United States with the exception of 685 tons from Chile, and the entire amount was destined to Great Britain and Continental Europe.

Nitrate Shipments Increase.

Nitrate shipments through the Canal from Chile during October totaled a little over 150,000 tons, and were the highest since February, 1921, when 191,928 tons passed through the Canal. Shipments for the past month were routed as follows: To the West Indies, 7,750 tons; to Alexandria, Egypt, 21,234 tons; to Europe, 50,105 tons; and to the Atlantic and Gulf seaboard of the United States, 72,037 tons. Of the shipments going to the United States, several were routed to Norfolk for orders, and probably some of them proceeded to Europe.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 4, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Virginian	28	23.12	29	6.22	29	13.41	29	15.00	American	American-Hawaiian Line	491.5	58.2	26.0	Liverpool	Portland	General	6,700	10,491	7,546
Eldorado	28	23.54	29	7.10	29	15.31	29	16.50	American	Western Transport Co	245.6	42.0	20.6	Mobile	Seattle	General	2,657	2,439	1,662
Sherman	29	0.40	29	7.40	29	14.47	29	16.00	American	Sherman Steamship Co	400.3	45.3	18.6	New York	Tocopilla	General	876	5,037	3,492
Toco	29	11.50	29	12.00	29	19.18	29	20.00	British	Sheridan Steamship Co	400.8	56.0	26.0	Tampico	Tocopilla	Fuel oil	9,322	7,693	4,885
Havo	29	14.08	30	6.30	30	13.59	30	15.15	Norwegian	H. Ostervold	385.0	51.0	14.0	Portland	Pisagua	Ballast		5,210	3,756
Byron D. Benson	29	17.55	30	7.30	30	14.48	30	15.55	American	Tidewater Oil Co	465.0	60.0	20.0	New York	Los Angeles	Ballast		8,546	6,095
Hazel Branch	30	10.57	30	11.15	30	18.02	30	18.55	British	F. and W. Ritson	418.0	51.0	21.6	Liverpool	Talcahuano	General	5,039	5,208	3,578
San Francisco [1]	29	9.50	30	12.02	30	18.52	1		Swedish	Johnson Line	362.0	51.0	23.10	Stockholm	San Francisco	General	5,000	5,298	4,019
Narenta	30	6.32	30	12.05	30	19.50	30	21.02	British	Royal Mail Steam Packet Co	450.0	58.4	17.7	London	Seattle	Ballast		8,856	6,559
Lancaster	30	2.26	30	12.50	30	22.18	31	6.48	American	Lancaster Steamship Corp	434.3	57.7	26.8	New York	Seattle	Steel, general	8,621	7,943	5,872
Suffolk	30	12.55	30	13.00	30	20.48	31	13.37	British	Federal Steam Navigation Co	460.0	58.0	21.0	London	Auckland	General	5,420	9,096	6,421
Quail [2]	9-24	9.18	31	6.10	31	12.42			American	U. S. Navy	180.0	35.6		Hampton R'ds	Balboa				
Willpolo	30	23.10	31	7.20	31	14.46	31	16.15	American	Williams Steamship Co	386.8	52.2	22.6	Philadelphia	Los Angeles	General		5,442	5,680	4,112
East Wind	31	8.30	31	8.45	31	16.53	1	19.40	American	U. S. & A. Line (S. B.)	384.3	51.2	25.0	New York	Adelaide	Oil and general		5,500	5,966	4,442
Lewis Luckenbach	31	8.19	31	9.20	31	17.41	31	18.50	American	Luckenbach Line	496.0	68.0	24.8	New York	San Francisco	General		7,000	11,487	8,762
Mantaro	26	21.50	31	11.40	31	20.36	31	21.24	Peruvian	Peruvian Line	367.0	46.0	19.2	Cristobal	Callao	General		333	4,838	2,959
Moerdijk	30	10.40	31	12.00	31	21.20	31	22.10	Dutch	Holland-American Line	472.0	61.0	19.5	Rotterdam	Vancouver	General		2,528	9,165	7,056
Theodore Roosevelt [1]	31	22.50	1	6.40	1	13.59	1	21.00	Norwegian	Fred Olsen & Co	425.0	55.0	28.0	Christiania	San Diego	General		9,850	7,593	5,637
Wiegand	1	6.42	1	7.36	1	14.44	1	16.10	German	Roland Line	393.0	54.0	25.0	Hamburg	Guayaquil	General		4,125	6,573	4,629
El Grillo	1	8.16	1	8.45	1	15.48	1	19.50	British	Lobitos Oilfields Co	440.0	57.0	20.0	Banow	San Francisco	Ballast			7,468	5,042
Haimon	31	17.45	1	11.45	1	18.06	1	19.00	German	Roland Line	361.0	48.0	18.8	Hamburg	Champerico	General		1,140	4,350	3,117
Birmingham [3]	2	5.37	2	6.33	2	13.32			American	U. S. Navy	420.0	47.0	18.0	New Orleans	Balboa					
Mexico Maru	2	4.23	2	7.30	2	14.40	2	16.06	Japanese	Osaka Shosen Kaisha	400.0	51.0	21.0	Buenos Aires	Yokohama	General, cotton		1,907	6,067	4,230
Rio Gatun [4]	1		2		2	15.44			Panaman	A. R. Eckhart				Cristobal	Gatun Lake				8	8
Dochra	2	13.25	3	6.27	3	13.37	3	14.43	American	Barber Line	376.0	51.0	23.1	New York	Los Angeles	General		4,530	5,158	3,813
Edward Luckenbach	2	15.45	3	7.37	3	14.40	3	15.54	American	Luckenbach Line	436.0	57.0	26.0	New York	Los Angeles	General		6,700	8,543	6,427
Sunbeam	2	18.30	3	8.21	3	15.43	3	16.30	American	Sun Steamship Co	429.3	59.2	21.0	Chester	Los Angeles	Ballast			7,701	5,472
Rimutaka	2	20.03	3	8.55	3	16.18	4	13.40	British	New Zealand Shipping Co	458.0	58.0	25.0	London	Wellington	General		5,800	9,159	6,883
Choyo Maru	3	5.57	3	9.30	3	17.38	3	18.15	Japanese	Toyo Kisen Kaisha	400.0	53.0	25.0	Newcastle	Yokohama	General, cotton		4,824	6,186	4,457
Meiwu Maru	2	21.57	3	10.30	3	18.27	3	19.35	Japanese	Meiji Kisen Kaisha	445.0	58.3	16.0	New York	Portland	Ballast			8,299	5,979
Port Augusta	3	11.30	3	11.40	3	19.09	3	20.25	British	Commonwealth & Dom. Line	380.0	49.0	20.0	New York	Brisbane	General		2,120	5,192	3,854
Eurypylus	3	13.10	3	13.30	3	21.30	3	23.15	British	China Mutual Steam Nav. Co	430.0	52.0	24.0	Liverpool	Vancouver	General		5,558		
Panuco	3	16.00	4	6.22	4	13.46	4	14.50	American	Ward Line	351.5	47.9	20.0	New Orleans	Los Angeles	General		2,512	4,226	2,848

[1] Motor ship. [2] Tug. [3] Cruiser. [4] Launch.

Gen. O. H. Ernst	3	2.57	4	6.45	4	14.33	5	10.40	American	Panama Railroad Steamship Line	356.4	45.3	17.0	New York		General	900	4,503	2,764
Cleveland[3]	2	6.33	4	7.25	4	15.27			American	U. S. Navy	308.0	36.0	17.6	Key West	Balboa				
Steel Ranger	3	18.35	4	8.05	4	17.40	4	19.00	American	U. S. Steel Products Co	424.2	56.2	27.9	Baltimore	Seattle	General, steel	8,459	7,611	5,450
Hawaiian	3	22.04	4	9.00	4	18.27	4	19.45	American	American-Hawaiian Line	406.0	51.0	26.0	Philadelphia	Los Angeles	General	6,100	6,039	4,180
Jadden	4	2.52	4	9.20	4	19.11			American	Tampa Inter-ocean Co. (S. B.)	410.5	54.2	18.3	Galveston	Yokohama	General	2,827	7,496	5,686
Delagoa Maru	4	9.05	4	10.30	4	20.10	4	21.20	Japanese	Nippon Yusen Kaisha	420.0	56.0	24.0	Boston	Yokohama	(5)	6,119	7,249	5,171

[5] Machinery parts, steel, cotton, lubricating oil, and bicarbonate.

THROUGH THE CANAL—PACIFIC TO ATLANTIC

Margaret Coughlan	28	11.15	29	7.06	29	14.45	29	14.45	British	Deingwall Gotts	411.5	54.1	23.0	Victoria	Montreal	Lumber	7,500	6,624	4,999
Patuxent			29	9.24	30	16.44			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
Hampstead	29		29	10.56	29	19.35	29	21.35	British	Watts, Watts & Co	340.0	45.0	22.0	Mejillones	Gibraltar[6]	Nitrate	5,200	3,830	2,788
Steel Seafarer	29	12.35	29	13.05	29	20.13	29	20.13	American	Isthmian Steamship Line	424.4	56.2	22.5	Vancouver	New York	General	7,281	7,611	5,454
Kronstad	29	20.30	30	7.55	30	17.00	30	17.52	Norwegian	Kingsley Steamship Line	313.0	46.3	19.6	Junin	Norfolk	Nitrate	4,820	2,963	2,070
William G. Warden	29	20.45	30	8.41	30	17.42	30	17.42	American	Standard Oil Co. of N. J.	500.0	68.2	29.3	Los Angeles	New York	Oil	15,240	10,503	7,909
Oak Branch	30	7.45	30	9.36	30	17.45	30	21.20	British	F. and W. Ritson	385.0	49.8	23.0	Talcahuano	Liverpool	General	5,902	5,209	4,031
Santa Teresa	30	8.00	30	10.36	30	17.58	30	20.12	American	Grace Line	360.0	51.6	25.6	Talcahuano	New York	General	3,967	5,726	4,086
D. G. Schofield	30	9.30	30	11.36	30	19.35	30	20.52	American	Standard Oil Co. of California	439.5	58.0	30.3	San Francisco	Philadelphia	Oil	11,240	8,912	6,254
Artigas	30	12.45	30	13.34	30	21.53	30	22.07	American	N. Atlantic & Western S. S. Co.	390.0	54.2	26.0	Portland, Ore.	Portland, Me.	General, lumber	7,610	6,204	4,314
Alaskan	31	5.00	31	8.10	31	16.20	31	20.12	American	U. S. A. Line	470.1	57.2	30.0	Seattle	Hamburg	General	10,174	9,250	6,816
Nevada	31	8.15	31	9.09	31	16.40	31	20.25	French	French Line	419.9	55.8	26.2	Vancouver	Antwerp	General	7,630	7,484	5,408
Charlton Hall	31	8.30	31	10.07	31	15.55	1	7.52	American	U. S. Steel Products Co	400.0	50.0	26.0	Colosa		Nitrate	7,300	5,714	4,161
G. Harrison Smith	30	3.30	31	11.25	31	21.28	31	21.28	British	Ore Steamship Co	550.6	72.0	34.0	Cruz Grande	New York	Iron ore	20,000	15,476	11,102
George Washington	31	11.20	31	12.54	31	22.21	31	22.27	Norwegian	Norway-Pacific Line	424.5	55.3	28.6	San Francisco	Christiania	General	9,249	7,505	5,627
K. I. Luckenbach	31	12.00	31	13.47	31	23.57	1	6.55	American	Luckenbach Line	446.0	56.0	26.6	Portland	Boston	General, lumber	7,000	8,552	6,237
Trompenborg	31	18.45	1	6.56	1	15.15	1	17.45	Dutch	Vinke & Co	280.0	40.0	18.0	Iquique	New Orleans	Nitrate	3,000	2,213	1,521
Quail[2]	31	12.42	1	7.07	1	14.20			American	U. S. Navy	180.0	35.6		Balboa	Cristobal				
Republic	31	18.12	1	8.13	1	15.59	1	17.10	American	Chilean Steamship Co	345.1	49.1	22.8	Antofagasta	New York	Nitrate	6,239	4,393	3,006
Benjamin Brewster	31	22.00	1	8.50	1	16.23	1	17.56	American	Standard Oil Co	411.6	53.2	24.6	Talara	Habana	Oil	7,600	6,177	4,244
Advance	1	6.00	1	10.01	1	17.10	3	15.00	American	Panama Railroad Steamship Line	295.0	38.4	20.2	Guayaquil	New York	General	1,025	2,947	2,113
Steel Inventor	1	11.10	1	11.43	1	18.15	1	18.15	American	Isthmian Steamship Line	424.2	56.2	26.6	Los Angeles	New York	General	7,850	7,611	5,450
Santa Eulalia	1	14.00	1	14.16	1	21.52	1	21.52	American	Isthmian Steamship Line	251.0	43.6	23.6	Aberdeen	New York	Copper, lumber	3,500	2,823	1,730
Christiansborg	2	3.15	2	7.46	2	15.35	2	17.10	Danish	C. K. Hansen	331.8	48.7	21.9	Caleta Colosa	Cristobal[6]	Nitrate	4,927	4,328	3,180
Sheaf Mead	2	6.00	2	8.35	2	17.00	2	18.10	British	Kinsley Steamship Line	380.2	53.5	22.6	Portland	Queenstown	Wheat	6,587	5,326	4,008
William Champion	2	12.15	2	13.08	2	21.05	2	21.05	American	Gaarland Steamship Corp	384.4	51.2	24.8	Portland	Mobile	General	6,412	6,327	4,433
Tolken	1	15.20	2	12.36	2	19.37	2	19.37	Swedish	Transatlantic Steamship Co.	378.0	54.0	19.0	London	Hamburg	Copra	5,215	6,225	4,536
San Zotico	3	7.00	3	8.15	3	14.38	3	16.25	British	Anglo-Mexican Petroleum Co	400.2	52.0	16.5	Valparaiso	Tampico	Ballast		6,032	3,872
John D. Archbold	3	11.57	3	12.53	3	22.05	4	0.58	American	Standard Oil Co	554.9	75.3	31.5	San Pedro	New York	Oil	20,240	14,785	10,313
Imperial	3	6.00	4	7.08	4	14.07			Chile	Chilean Line	336.8	41.2	21.0	Valparaiso	Cristobal	General	296	3,296	2,156

[6] For orders.

MOVEMENTS OF OCEAN VESSELS—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Heffron	3	6.00	4	8.00	4	15.21	4	21.40	American	Tampa Inter-Ocean Steamship Co	440.0	55.0	35.2	Hankow	New York	General	9,357	8,349	6,201
Steel Age	3	17.00	4	8.28	4	15.46	4	15.46	American	Isthmian Steamship Line	395.5	55.0	27.0	Honolulu	Baltimore	General	8,139	7,285	5,256
Frogner	3	17.00	4	8.38	4	16.55	4	16.55	Norwegian	Fearnley & Eger	407.1	53.8	27.4	Portland	Falmouth	Wheat	8,129	7,010	5,310
Acajutla	3	23.00	4	10.03	4	16.07			British	Pacific Steam Navigation Co	215.7	33.5	14.4	San Jose, Gu't	Cristobal	General	413	1,273	705
Glamorganshire	4	0.30	4	10.26	4	18.18	5	21.28	British	Royal Mail Steam Packet Co	400.0	58.0	24.0	Victoria	London	General	8,000	8,229	5,982
Valdura	4	7.00	4	11.00	4	19.30	4	21.25	British	Gow, Harrison & Co	414.0	56.0	25.0	Iloilo	New York	Sugar	7,500	6,101	4,358
Floridian	4	10.15	4	11.50	4	18.35	4	18.35	American	United American Lines	415 0	53.7	28.9	San Francisco	Boston	General	9,325	7,273	5,105
Willhilo	4	11.00	4	12 35	4	20.15	4	20.15	American	Williams Steamship Co	434 3	57.7	25.5	Seattle	New York	General	7,768	7,983	5,882
Ansaldo San Giorgio III	3	1.00	4	14.08	4	23.45	5	12 44	Italian	Societa Nazionale di Navigazione	390.4	55.8	26.0	Valparaiso	Genoa	General	6,700		
Ucayali	4	3.00	4	14.52	4	22.40			Peruvian	Peruvian Line	377.7	46.3	17.6	Callao	Cristobal	General	643	4,466	2,405

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
October 29	Abangarez	United Fruit Co	New Orleans via Habana.
October 29	Paul H. Harwood	Pan-American Petroleum Co	Tampico.
October 30	Parismina	United Fruit Co	New Orleans.
October 31	Ulua	United Fruit Co	New York via Kingston.
November 1	Carrillo	United Fruit Co	New York via Kingston.
November 1	Sixaola	United Fruit Co	Colombian ports.
November 2	Panama	Panama Railroad Steamship Line	New York via Haiti.
November 2	Abangarez	United Fruit Co	Bocas del Toro.
November 3	St. Mihiel [7]	U. S. Army	New York via San Juan.
November 4	San Benito	United Fruit Co	Port Limon.
November 3	O-1, 3, 4, 6, 8, 9 [8]	U. S. Navy	Guantanamo.

[7] Transport. [8] Submarines.

*DEPARTURES.

Date.	Vessel.	Line.	For—
October 29	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.
October 29	Columbia	N. O. & S. A. S. S. Line	New Orleans.
October 29	Cristobal	Panama Railroad Steamship Line	Norfolk.
October 30	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
October 30	Abangarez	United Fruit Co	Bocas del Toro.
October 31	Paul H. Harwood	Pan-American Petroleum Co	Tampico.
November 1	Parismina	United Fruit Co	New Orleans via way ports.
November 1	Ulua	United Fruit Co	New York via wayports.
November 2	Abangarez	United Fruit Co	New Orleans.
November 2	Carrillo	United Fruit Co	Colombian ports.
November 2	Sixaola	United Fruit Co	New York via Kingston.
November 4	San Benito	United Fruit Co	Boston.
November 4	Savannah	U. S. Navy	High seas.

PORT OF BALBOA.

October 28	Memnon	General Steamship Corp	Valparaiso.
October 29	Hwah Ping	Chinese Government	Hongkong.
October 29	Baja California	A. O. Lindvig	Seattle.
October 30	Depere	General Steamship Corp	Tacoma.
November 1	Lancaster	Isthmian Steamship Lines	High seas.

October 29	Memnon	General Steamship Corp	Tacoma.
October 29	Rosana	Alberto Fait	Punta Arenas.
October 30	Baja California	A. O. Lindvig	Guayaquil.
October 31	Hwah Ping	Chinese Government	Iquique.
October 31	Depere	General Steamship Corp	Valparaiso.

* Other than ships passing through the Canal.

Traffic Through the Canal in October, 1922.

Commercial traffic through the Canal, for the month ending October 31, exceeded that of any previous month.

The following summary shows the detail of traffic through the Canal as to the number of vessels, net and gross tonnage, tolls, and cargo tonnage, both east and westbound:

	No of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific	159	566,854	712,452	899,040	565,986	$657,837 91	565,075
Pacific to Atlantic	135	482,402	597,940	753,395	476,980	597,670 09	880,788
Totals	294	1,049,256	1,300,392	1,652,435	1,042,966	1,255,508 00	1,445,863

The traffic, both ways combined, established new records for number of ships, tonnage, tolls, and quantity of cargo. In each direction new records were established, except that the amount of cargo from Atlantic to Pacific has been exceeded during several previous months; and the number of ships from the Pacific to the Atlantic was less by 10 than the 145 which made the transit eastbound in January, 1921.

Cargo passing through the Canal during the month totaled 1,445,863 tons, which exceeds the previous high cargo record of 1,211,100 tons made during July, 1922, by 234,763 tons.

Cargo through the Canal from the Pacific to the Atlantic totaled 880,788 tons, and represents the greatest one-way cargo movement during any month since the opening of the Canal. It exceeds the previous high month of cargo tonnage from the Pacific to the Atlantic by 210,436 tons, and the largest Atlantic to Pacific cargo movement during any month by 207,390 tons. Heavy shipments of nitrate, wheat, barley, oil, lumber, and canned goods formed the bulk of the Pacific to Atlantic cargo.

Of the record cargo movement from the Pacific to the Atlantic, Australasia furnished approximately 8,000 tons, the Far East 20,000 tons, while approximately 300,000 tons (of which one half was nitrate) originated on the west coast of South America, and practically all of the balance, approximating 550,000 cargo tons, was from the west coast of the United States and Canada.

Liquor on Vessels in Territorial Waters of the United States.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., October 31, 1922.

To all concerned—Information has been received to the effect that the Secretary of the Treasury is preparing regulations for putting into effect in the United States the opinion of the Attorney General of October 6, 1922, to the effect that the Eighteenth Amendment and the National Prohibition Act prohibit the manufacture, transportation, and possession of liquor on American vessels and on foreign vessels within the territorial waters of the United States, and public notice of their approval and of the date when they will become effective will be given.

Until such regulations become operative, the present regulations of the Treasury Department governing the bringing of liquors into the territorial waters of the United States by foreign vessels under which both cargo and sea stores liquors may be brought into American territorial waters will remain in force. Liquor cargoes must be sealed and remain sealed while in territorial waters of the United States, and liquors in sea stores must be sealed upon entering the territorial waters of the United States and remain sealed while therein, except when opened for withdrawal therefrom of liquors for use of officers and crew only. No sales of liquors whatever will be permitted.

M. L. WALKER, *Acting Governor.*

Commercial Traffic Through the Panama Canal in October, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States coastwise:							*Long tons.*
United States	44	178,385	218,319	279,592	179,750	$201,582.70	176,911
From east coast of United States to west coast of South America:							
United States	9	31,607	39,691	50,785	31,455	34,155.04	13,618
British	7	24,821	29,823	41,003	25,052	23,891.42	2,522
Norwegian	4	9,888	12,255	15,751	9,634	10,549.72	2,386
Dutch	1	1,867	1,867	2,007	1,142	2,240.40	950
Totals	21	68,183	83,636	109,546	67,283	70,836.58	19,476
From east coast of United States to Far East:							
British	7	29,553	38,830	43,264	27,307	33,328.30	40,133
United States	5	22,584	30,745	35,699	22,221	28,230.00	36,006
Japanese	5	20,014	22,882	29,690	19,941	24,686.75	25,719
Norwegian	2	5,977	7,543	9,501	5,962	7,471.25	5,710
Totals	19	78,128	100,000	118,154	75,431	93,716.30	107,568
From Europe to west coast of South America:							
British	7	24,863	30,862	40,125	24,901	31,078.75	34,772
German	3	6,957	10,343	11,621	6,963	8,696.25	12,020
Dutch	2	8,745	11,337	14,083	8,724	10,931.25	5,539
Japanese	1	4,349	4,700	5,873	4,254	5,436.25	6,302
Danish	1	4,223	5,303	5,296	3,311	5,278.75	2,356
French	1	3,566	4,081	5,681	3,600	4,457.50	387
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
Totals	16	54,599	68,936	86,490	54,537	67,541.95	61,376
From Europe to west coast of United States:							
British	8	31,017	38,024	49,364	30,763	30,793.13	18,319
United States	2	9,026	12,462	14,413	9,110	11,282.50	11,596
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,000
Totals	11	42,296	54,505	67,522	42,731	44,891.88	34,915
From Cristobal, C. Z., to west coast of South America:							
Peruvian	4	5,214	10,701	17,069	8,704	6,517.50	1,482
United States	2	668	670	1,230	746	804.00	89
Chilean	1	1,797	3,068	3,814	2,288	2,246.25	553
British	1	63	72	111	100	78.75	10
Totals	8	7,742	14,511	22,224	11,838	9,646.50	2,134
From east coast of United States to Australasia:							
British	4	13,519	18,481	21,761	13,549	16,898.75	27,502
United States	3	8,988	9,047	11,805	8,955	10,836.60	12,500
Totals	7	22,507	27,528	33,566	22,504	27,735.35	40,002
From Europe to Australasia:							
British	6	30,002	40,850	48,108	30,390	37,502.50	33,086
French	1	1,283	1,291	1,626	1,143	1,549.20	1,228
Totals	7	31,285	42,141	49,734	31,533	39,051.70	34,314
From Europe to west coast of Canada:							
British	3	14,967	19,044	23,921	14,998	18,708.75	17,641
Dutch	1	4,547	7,056	7,310	4,495	5,683.75	2,485
French	1	4,089	4,936	5,617	3,491	5,111.25	1,722
Totals	5	23,603	31,036	36,848	22,984	29,503.75	21,848
From east coast of Mexico to west coast of South America:							
British	3	12,324	14,170	20,667	12,163	15,405.00	25,885
From east coast of Canada to Australasia:							
British	3	10,245	12,581	16,181	9,899	12,806.25	12,000
From Cristobal, C. Z., to west coast of United States:							
United States	2	2,986	3,756	4,796	2,963	3,732.50	2,074
From east coast of South America to west coast of South America:							
Peruvian	1	2,690	2,787	3,600	2,674	3,362.50	2,590
British	1	549	884	1,041	615	686.25	736
Totals	2	3,239	3,671	4,641	3,289	4,048.75	3,326

ATLANTIC TO PACIFIC—Continued.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From Cristobal, C. Z., to west coast of Central America:							
British	2	1,288	1,398	2,298	1,304	$1,610.00	1,769
From east coast of Mexico to Far East:							
Japanese	1	5,705	6,467	10,222	5,705	7,131.25	7,000
From West Indies to west coast of Canada:							
British	1	5,385	5,867	5,893	3,777	6,731.25	3,100
From east coast of Canada to west coast of South America:							
British	1	4,402	5,114	7,116	3,997	3,682.08	.....
From West Indies to west coast of United States:							
British	1	4,251	5,277	6,852	3,967	3,799.44	.....
From West Indies to west coast of South America:							
United States	1	3,649	4,244	5,950	3,677	3,055.68	.....
From east coast of South America to west coast of Canada:							
United States	1	3,522	4,914	5,652	3,522	4,402.50	5,477
From east coast of United States to west coast of Canada:							
United States	1	3,132	4,381	5,096	3,132	3,915.00	5,900
Miscellaneous (war craft):							
British	2	(1)	.....	.....	.....	3,011.50	.....
Totals, October, 1922	159	566,856	712,452	899,040	565,986	657,837.91	565,075
Totals, September, 1922	126	460,366	582,416	725,894	453,209	545,856.98	467,836
Totals, October, 1921	131	459,713	571,175	708,363	458,589	541,994.93	374,437

[1] 6,023 displacement tons.

PACIFIC TO ATLANTIC.

United States coastwise:							
United States	29	128,904	156,722	199,581	126,899	160,497.85	235,728
From west coast of United States to Europe:							
Japanese	8	34,162	36,085	47,917	33,102	42,007.55	58,795
Norwegian	5	20,889	26,352	30,373	20,193	26,111.25	40,705
British	4	15,202	16,761	21,614	15,310	18,564.65	29,703
United States	2	10,781	13,605	17,032	10,860	13,476.25	20,808
Swedish	2	7,552	10,759	12,119	9,029	9,440.00	17,530
Dutch	1	4,860	6,068	7,651	4,796	6,075.00	8,256
French	1	3,224	4,854	5,376	3,198	4,030.00	8,297
Totals	23	96,670	114,484	142,082	96,488	119,704.70	184,094
From west coast of South America to east coast of United States:							
United States	9	32,096	38,413	50,463	31,931	39,386.05	73,177
British	8	26,798	33,759	44,153	26,994	33,497.50	48,948
Norwegian	3	6,674	9,450	10,648	6,512	8,342.50	19,215
Danish	2	4,781	5,113	6,383	3,892	5,838.25	10,002
Chilean	1	3,095	4,705	7,289	3,913	3,868.75	5,149
Totals	23	73,444	91,440	118,936	73,242	90,933.05	156,491
From west coast of South America to Europe:							
British	11	36,498	45,340	58,477	36,234	45,622.50	65,065
Dutch	2	3,262	6,182	5,410	3,303	4,077.50	7,793
Peruvian	2	7,847	8,757	11,836	7,462	9,674.05	12,065
French	1	4,368	4,369	5,351	3,339	5,242.80	6,571
German	1	3,587	4,532	4,621	2,572	4,483.75	6,662
Italian	1	2,718	3,773	4,676	2,636	3,397.50	1,975
Totals	18	58,280	72,953	90,371	55,546	72,498.10	100,131
From west coast of Canada to Europe:							
British	3	12,874	14,551	16,973	10,904	15,912.70	22,110
French	2	10,232	10,409	12,305	7,727	12,500.40	14,638
Danish	2	7,512	12,191	13,856	8,771	9,390.00	18,405
United States	2	6,927	10,904	11,406	6,922	8,658.75	15,998
Totals	9	37,545	48,055	54,540	34,324	46,461.85	71,151

PACIFIC TO ATLANTIC—Continued.

Route and Registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of South America to Cristobal, C. Z.:							
Peruvian	3	4,225	8,296	13,764	7,190	$5,281.25	3,636
United States	2	668	670	1,230	746	819.50	762
Chilean	1	1,797	3,068	3,814	2,288	2,246.25	865
British	1	63	72	111	100	78.75	65
Totals	7	6,753	12,106	18,919	10,324	8,425.75	5,328
From west coast of Canada to east coast of United States:							
United States	3	8,935	13,355	14,817	8,926	11,168.75	19,687
Norwegian	1	2,155	2,471	3,371	2,004	2,693.75	3,835
Totals	4	11,090	15,826	18,188	10,930	13,862.50	23,522
From Far East to east coast of United States:							
United States	1	4,156	5,657	6,589	4,156	5,195.00	9,998
Norwegian	1	3,988	4,612	6,505	3,990	4,985.00	7,028
Japanese	1	3,562	4,507	5,813	3,591	4,452.50	5,188
Totals	3	11,706	14,776	18,907	11,737	14,632.50	22,214
From west coast of Canada to east coast of Canada:							
British	2	8,158	10,432	11,877	7,481	10,197.50	12,095
Norwegian	1	3,416	3,937	5,489	3,435	4,270.00	3,771
Totals	3	11,574	14,369	17,366	10,916	14,467.50	15,866
From west coast of South America to North Africa (Egypt):							
British	3	8,597	11,800	13,782	8,523	10,746.25	21,234
From west coast of South America to West Indies:							
United States	1	3,649	4,244	5,950	3,677	4,561.25	7,350
British	1	3,153	4,146	4,997	3,184	3,941.25	7,750
Totals	3	6,802	8,390	10,947	6,861	8,502.50	15,100
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,288	1,398	2,298	1,304	1,610.00	385
From Far East to Europe:							
Japanese	1	4,421	5,456	7,028	4,331	5,526.25	7,971
From west coast of United States to North Africa:							
Japanese	1	4,357	4,440	5,857	4,259	5,280.00	7,506
From west coast of United States to east coast of Mexico:							
British	1	4,305	4,964	7,267	4,405	5,381.25	4,500
From west coast of South America to east coast of Mexico:							
British	1	3,878	4,382	6,225	3,959	3,155.04	
From west coast of United States to east coast of South America:							
United States	1	3,634	4,873	5,867	3,634	4,542.50	1,470
From Australasia to east coast of Canada:							
British	1	3,245	4,092	5,399	3,333	4,056.25	2,860
From Australasia to Europe:							
Norwegian	1	3,137	3,930	5,128	3,129	3,921.25	4,514
From west coast of Central America to Europe:							
German	1	1,118	1,361	2,064	1,182	1,397.50	505
From west coast of United States to Cristobal, C. Z.:							
United States	1	1,654	2,163	2,643	1,654	2,067.50	218
Totals, October, 1922	135	482,402	597,940	753,395	476,980	597,670.09	880,788
Totals, September, 1922	114	382,747	487,994	607,207	384,726	474,207.57	670,352
Totals, October, 1921	124	406,483	498,379	627,449	405,087	505,940.69	611,338

The Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., November 15, 1922. No. 14.

United States Coastwise Trade Through Canal for October Sets New High Record.

Traffic between ports of the United States by way of the Canal (coastwise traffic) during the month of October was the heaviest for any month since the opening of the Canal. The coastwise traffic, in point of tonnage, tolls, and tons of cargo carried, made up almost 30 per cent of the whole traffic through the Canal in October.

The number, tonnage, etc., of vessels transiting the Canal during the month of October, 1922, in the United States coastwise traffic, was as follows:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo carried.
From Atlantic to Pacific	44	218,319	$201,582.70	176,911
From Pacific to Atlantic	29	156,722	160,497.85	235,728
Totals	73	375,041	362,080.55	412,639

The great increase in this traffic over that of a year ago, particularly in regard to cargo tonnage, is shown by the following comparative figures for the first 4 months of the fiscal years 1922 and 1923:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo carried.
July, August, September, and October, 1921:				
Atlantic to Pacific	85	436,153	$434,301.55	275,446
Pacific to Atlantic	71	366,218	375,141.64	432,376
Totals	156	802,371	809,443.19	707,822
July, August, September, and October, 1922:				
Atlantic to Pacific	144	709,270	658,019.24	648,343
Pacific to Atlantic	108	555,424	547,187.60	745,230
Totals	252	1,264,694	1,205,206.84	1,393,573

The cargo carried through the Canal in the coastwise trade during the past 4 months is seen to have exceeded the quantity in the corresponding months of the previous year by 685,751 tons, which was an increase of over 96 per cent over the cargo movement in the 4 months of last year.

Notice to Mariners.—Aid to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 9, 1922.

The following message was received from Almirante this morning by the Balboa Radio:

"New flashing beacon, red light, now installed entrance Bocas harbor; also 3 flashing beacons at anchorage, all in approximately same location as old beacons. Definite locations will be given later—Almirante."

JAY J. MORROW,
Governor.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 11, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Gothic Prince	4	15.28	5	6.22	5	14.00	6	13.40	British	Prince Line, Ltd	448.1	57.2	22.6	New York	Hongkong	General	5,960	9,082	6,701
Kent	4	12.20	5	7.00	5	14.39	5	15.30	British	Federal Steam Navigation Co	460.0	62.0	29.4	Liverpool	Auckland	General	9,441	10,507	8,132
Helder	4	4.30	5	7.50	5	15.54	5	17.05	Dutch	Royal Netherlands W. I. Mail	361.5	49.8	17.6	Hamburg	Guayaquil	General	2,129	5,117	3,807
Minnesotan	5	5.32	5	9.10	5	16.39	5	17.50	American	American-Hawaiian Line	407.0	53.7	22.0	Boston	Los Angeles	General	4,885	7,150	4,913
Ansaldo San Giorgio I	4	21.35	5	9.25	5	17.27	6	18.20	Italian	Societa Nazionale di Navigazione	385.8	49.0	19.0	Genoa	Valparaiso	General	936	5,657	3,974
Borgestad	5	10.00	5	10.30	5	18.27	5	19.47	Norwegian	Borgestad Co	360.3	51.3	23.0	Tampico	Valparaiso	Fuel oil	4,800	4,905	3,711
David McKelvy	5	16.21	6	6.17	6	13.36	6	14.44	American	Tidewater Oil Co	430.0	59.2	20.0	New York	Los Angeles	Ballast		7,629	5,393
Ardmore	5	16.53	6	7.15	6	14.48	6	16.00	American	Standard Oil Co	449.5	59.6	19.0	New York	Talara	Ballast		8,612	6,457
Carolinian	5	18.12	6	7.55	6	15.43	6	17.10	American	Garland Steamship Corp	359.8	50.2	24.6	Texas	Oakland	Sulphur	6,025	4,642	3,518
City of Glasgow	5	21.52	6	8.40	6	16.49	6	17.52	British	Ellerman Lines	391.3	54.0	27.0	New York	Shanghai	General	6,996	7,133	5,418
Jacob Luckenbach	6	10.40	6	10.50	6	18.05	6	19.10	American	Luckenbach Line	414.5	53.7	23.0	New Orleans	Los Angeles	General	5,776	7,315	5,270
Katherine [1]	5	22.16	7	6.45	7	15.23	9	13.20	American	National Exchange Company	286.9	43.5	16.0	New Orleans	San Francisco	Ballast		2,357	1,795
Patuxent [2]	30	16.44	7	6.25	7	15.19			American	U. S. Navy	156.0	24.0		Cristobal	Balboa	(5)			
Boxer [3]	24	9.18	7	6.25	7	15.19	8	20.46	American	U. S. Navy	117.0	29.8	9.0	Hampton R'ds	Seattle				
Capella [4]	4	7.35	7	6.50	7	14.27	8	20.46	American	U. S. Navy	390.0	54.0	21.5	Hampton R'ds	San Diego	Naval stores	4,000		
Santa Olivia	6	14.40	7	8.20	7	15.39	7	16.55	American	Grace Line	406.6	53.9	16.9	Baltimore	Seattle	General	2,750	6,779	4,921
Hoven	6	7.10	7	8.35	7	16.27	8	19.50	American	Walker & Daily (S. B.)	434.8	56.2	18.2	Mobile	Balboa	Fuel oil	3,636	7,587	5,305
Chiton	7	7.34	7	9.20	7	17.20	8	1.05	British	Anglo-Saxon Petroleum Co	400.3	52.2	20.3	Lisbon	Los Angeles	Ballast		6,014	4,107
Ida	6	14.07	7	11.05	7	19.16	7	20.37	Panaman	California Steamship Co	370.1	48.6	25.0	Norfolk	Shanghai	Kerosene	6,000	4,844	3,559
Cambrai [4]	7	6.22	7	12.00	7	18.12	8	7.40	American	U. S. Army	448.0	58.0	25.2	New York	San Francisco	Military supplies	493		
Thomas P. Beal	7	13.00	7	13.10	7	19.53	7	21.14	American	Crowell & Thurlow	410.0	55.0	23.0	Baltimore	Los Angeles	General	5,080	7,047	4,998
Canadian Pioneer	7	19.00	8	6.28	8	13.41	8	16.40	British	Canadian Government	400.0	52.0	20.0	Montreal	Auckland	General	2,000	5,877	4,070
Cambridge	7	20.50	8	7.47	8	15.33	8	18.30	British	Federal Steam Navigation Co	524.0	65.0	28.6	Glasgow	Brisbane	General	13,798	11,936	8,457
Munindies	8	2.35	8	8.49	8	16.08	8	18.50	American	Munson Line	370.0	53.1	22.1	Galveston	Powell River	Sulphur	5,600	5,527	4,099
Imperial	4	14.07	8	10.05	8	17.00	8	18.50	Chilean	Chilean Line	336.8	41.0	24.6	Cristobal	Valparaiso	General	688	3,296	2,156
Saint Bede	8	9.55	8	10.37	8	18.18	8	21.03	British	Rankin Gilmour	384.9	52.7	13.9	Blyth	Callao	Ballast		5,212	3,598
Corinto	6	20.19	8	11.55	8	18.58	8	20.07	American	Pacific Mail Steamship Co	261.1	40.0	14.3	New York	San Francisco	General	90	2,403	1,560
Samuel Q. Brown	8	11.55	8	12.12	8	19.48	8	21.30	American	Tidewater Oil Co	424.4	58.2	19.0	New York	Los Angeles	Ballast		7,333	5,246
Walter D. Munson	8	12.39	8	13.05	8	20.39	8	21.35	American	Munson Line	368.2	48.3	18.0	New York	Seattle	General	1,915	4,606	3,246
Carolyn	8	13.05	8	13.20	8	21.41	8	22.48	American	A. H. Bull & Co	313.6	48.1	20.4	New Orleans	Portland	General	3,864	3,644	2,566
Pequot	8	10.57	8	13.29	8	22.02	8	23.25	Panaman	Pacific Freighters Co	421.0	55.1	16.3	Norfolk	Eureka	Ballast		6,466	4,428
Copenhagen	8	11.20	9	6.10	9	13.48	9	15.00	British	Glen & Co	385.0	52.0	22.11	New York	Shanghai	General	6,000	5,076	3,733

[1] Motor schooner. [2] Tug. [3] Brigantine. [4] Transport. [5] Towing brigantine *Boxer*.

Santa Luisa	8	9 05	9	7 12	9	14.37	9	16.25	American	Grace Line	360.2	51.6	20.5	New York	Talcahuano	General	1,784	5,694	3,975
Sciota[6] and Barge No. 282	9	2.28	9	7.40	9	9.23			American	U. S. Navy	155.0	30.0	17.0	Norfolk	Gatun Lake				
Standard	8	16.12	9	8.15	9	15.49	9	17.10	American	Standard Oil Co	523.9	68.7	22.0	New York	Los Angeles	Ballast			
Romanstar	9	1.19	9	8.47	9	16.54	11	22.50	British	Blue Star Line	420.0	54.0	23.0	Middlesboro	San Francisco	General	5,094	7,433	5,870
Steelore	9	6.35	9	8.50	9	17.32	9	18.30	American	Ore Steamship Corp	550.3	72.2	20.0	Baltimore	Cruz Grande	Ballast		15,551	4,411
Delaware Sun	9	9.42	9	10.20	9	18.30			American	Sun Co	480.5	66.0	22.5	Philadelphia	Los Angeles	Ballast		9,402	6,586
Ucayali	4	22.40	9	11.17	9	19.23	9	23.50	Peruvian	Peruvian Line	374.7	46.3	18.0	Cristobal	Callao	General	581	4,466	2,405
Knoxville City	9	11.05	9	11.45	9	21.20			American	U. S. Steel Products Co	424.2	56.2	25.6	Galveston	Yokohama	Steel, cotton	7,509	7,611	5,450
San Eduardo	9	12.08	9	12.35	9	22.21	9	23.40	British	Eagle Oil Transport. Co	420.3	54.6	28.2	Tampico	Iquique	Fuel oil	7,700	6,391	4,382
Lima[7]	9	14.15	10	6.15	10	14.52	11	13.20	Swedish	Johnson Line	364.1	51.5	19.6	Antwerp	Los Angeles	General	4,515	5,304	3,900
Acajutla	4	16.07	10	6.16	10	16.08	11	1.02	British	Pacific Steam Navigation Co	215.7	33.5	15.5	Cristobal	Champerico	General	814	1,273	706
Munrio	9	23.21	10	7.45	10	16.22	10	17.40	American	Munrio Steamship Co	333.6	48.2	23.10	Galveston	Seattle	Sulphur	5,200	4,165	3,066
Birmingham City	9	23.25	10	9 30	10	18.11	10	19.30	American	U. S. Steel Products Co	395.5	55.0	24.5	Boston	Vancouver	General	6,015	6,841	4,686
Julia Luckenbach	10	15.52	11	6.22	11	13.41	11	15.10	American	Luckenbach Line	436.0	57.0	24.6	New York	Los Angeles	General	6,000	8,543	6,402
Borglum	10	6.03	11	7.24	11	14.46			Danish	C. K. Hansen	277.4	41.0	17.3	New Orleans	Valparaiso	General	1,250	2,641	1,877
Benjamin Brewster	10	23.21	11	8 57	11	16.09	11	17.14	American	Standard Oil Co	411.6	53.2	19.3	Habana	Talara	Ballast		6,177	4,244
Cold Harbor	11	9.45	11	10 24	11	18.12	11	19.14	American	N. Atl. & West. S. S. Co. (S. B.)	390.0	54.2	24.5	Philadelphia	Los Angeles	General	4,326	6,167	4,290

[6] Tug. [7] Motor ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Romsdalshorn	4	16.10	5	7.15	5	14.24	5	21.05	Norwegian	Laury Christiansen	420.0	53.9	26.0	Vancouver	Liverpool	Copper, lumber	6,102	6,592	4,733
Santa Rosa	4	15.30	5	7.55	5	15.25	5	18.05	American	Grace Line	404.6	54.0	28.6	Iquique	Colon[8]	Nitrate	8,924	6,754	4,780
Belfast Maru	4	20.00	5	8.55	5	16 45	5	21.00	Japanese	Kawabashi Kisen Kaisha	405.0	53.0	28.0	Vancouver	Genoa	Wheat	8,447	7,043	5,077
Santa Barbara	5	9.00	5	9.41	5	17.07	5	17.07	American	Isthmian Line	404.6	54.0	27.0	Tacoma	New York	Canned goods	6,245	6,789	4,746
Delft	5	3.30	5	14.51	5	23.00	6	18.10	Dutch	Royal Netherlands W. I. Mail	369.0	50.0	25.10	Talcahuano	Hamburg	Nitrate, general	6,660	5,862	4,392
Caucasier	6	0.30	6	8 09	6	15.21	7	10.17	Belgian	Lloyds Royal Belge	450.0	59.0	26.6	Antofagasta	Norfolk	Nitrate	9,200	7,578	5,549
Ohioan	6	8.05	6	9.30	6	17.00	6	21.08	American	United American Lines	407.7	53.7	28.6	Seattle	Liverpool	General	7,711	7,112	4,896
Laura C. Hall	3	13.00	6	11.07	6	17.32	8	7.40	British	Pacific Metals Transport. Co	256 0		9.0	Buenaventura	Cristobal	Platinum	(9)	132	72
Radix	6	0.30	6	13.00	6	20.02	6	20.02	British	Anglo-Saxon Petroleum Co	411.8	56.0	28.0	San Pedro	Gibraltar	Oil	9,000	7,428	5,277
Lydia	6	19.30	7	7.44	7	14.41	7	15.20	American	Lydia Steamship Co	366.0	48.2	22.0	Grays' Harbor	New York	Lumber	4,350	4,620	3,343
Rappahannock	8	1.00	8	7.58	8	17.50	9	17 08	American	U. S. Navy	498.0	59.0	20.0		New York	General	1,500	6,658	4,287
Levant Arrow	8	5.00	8	8.44	8	17.29	8	17.29	American	Standard Transport. Co.	468.0	62.7	20.0	Manila	New York	Coconut oil	3,005	9,744	7,039
Patuxent			8	9.03	8				American	U. S. Navy				Balboa	Cristobal				
Roland	8	11 00	8	12.05	8	19.30	8	21 05	German	Roland Line	360.3	51.0	32.6	Corral	Hamburg	Nitrate, general	5,550	4,791	3,374
Thode Fagelund	8	7.00	8	14.00	8	21.22	8	21.22	Norwegian	Will Williamson	395.0	53.3	26.6	Antofagasta	New Orleans	Nitrate	8,475	6,239	4,475
F. H. Hillman	8	15.30	9	6.56	9	16.00	9	16.00	American	Standard Oil Co. of California	500.0	68.2	28.10	San Francisco	Pt. Breeze	Oil	11,700	11,225	7,913
San Tiburcio	9	7.25	9	8.44	9	17.00	9	17.02	British	Anglo-Mexican Oil Co	413.0	53.4	19.0	Valparaiso	New Orleans	Ballast		6,272	4,343
Huasco	9	17.00	10	7.02	10	14.00			Chilean	Chilean Line	380.0	44.0	21.0	Talcahuano	Cristobal	General	55	4,152	3,182
Eastern Prince	9	19.30	10	8 10	10	15 02	10	15.02	British	Furness Prince Line	469.4	58.5	27.0	Everret	Hull	General	8,826	8,413	5,971
Strathlorne	10	6.30	10	9.40	10	16.05	10	19.25	British	Andrew Weir & Co	376.5	52.2	22.10	Taltal	Colon[8]	Nitrate	6,559		
Chertsey	10	10.30	10	11 28	10	19 30	10	21.10	British	Watts, Watts & Co	355.1	45.0	23 0	Mejillones	Bilbao	Nitrate	5,450	4,009	2,948
Gothiestar	10	17.30	10	12.40	10	20.35	10	20.35	British	Blue Star Line	420.5	54.7	25 3	Seattle	London	General	5,892	7,521	5,822
Galveston			11	7.00	11	14 40	11	20.50	American	U. S. Navy	293 0	44.0	16 6	Balboa	Cristobal				

[8] For orders. [9] Two boxes.

MOVEMENTS OF OCEAN VESSELS—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Alvarado	10	16.17	11	7.27	11	15.36	11	17.38	American	Swayne & Hoyt	245.0	41.5	13.10	Bellingham	Tampico	General, lumber	1,700	2,122	1,504
Brenta	10	16.30	11	8.04	11	15.39	11	17.15	Italian	Navegazione Libera Triestina	404.6	55.0	21.6	Victoria	New York	Lumber	550	5,508	4,049
West Catanace	10	22.50	11	8.59	11	16.55	11	17.50	American	Receivers Elders Steel S. S. Co.	410.5	54.3	24.0	Coos Cay	New York	Lumber	6,900	6,567	4,917
Orinoco	11	6.27	11	10.06	11	17.34	11	17.34	American	Luckenbach Line	376.4	52.3	21.1	San Francisco	New York	General	4,337	5,455	3,902
Negada	11	7.00	11	10.25	11	18.20	11	23.40	German	Kosmos Line	411.0	50.6	25.8	Talcahuano	Hamburg	Nitrate, general	6,300	6,402	4,463
Losada	11	10.00	11	11.39	11	21.50	12	12.29	British	Pacific Steam Navigation Co	406.1	54.2	16.11	Corral	London	General	8,144	7,220	4,844
Cuba	10	22.00	11	11.16	11	18.55	.....	.....	American	Pacific Mail Steamship Co	307.7	42.2	17.6	San Francisco	Cristobal	General	456	3,429	2,206
Vixen [9]	.....	.....	11	.....	11	.....	.....	.....	American	H. L. Lewis	18.0	5.0	.....	Balboa	Cristobal	.....	.....	1	1
Pedro Christo-pherson	11	7.15	11	12.55	11	20.00	11	20.00	Swedish	Johnson Line	377.0	51.3	23.0	Vancouver	Stockholm	General	5,068	5,281	4,015
San Clara	11	11.45	11	13.55	11	23.14	12	10.35	American	Pacific Mail Steamship Co	404.6	54.0	26.6	Tacoma	Baltimore	General, lumber	7,800	6,760	4,450

[9] Commercial launch.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Nov. 5	Turrialba	United Fruit Co	New Orleans via Habana.
Nov. 6	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
Nov. 7	San Bruno	United Fruit Co	Boston via Habana.
Nov. 7	Toloa	United Fruit Co	New York via Habana.
Nov. 7	La Navarre	French Line	St. Nazaire and wayports.
Nov. 7	Alexandrian	Leyland Line	Liverpool via wayports.
Nov. 7	Cartago	United Fruit Co	New Orleans via Habana.
Nov. 8	Tivives	United Fruit Co	New York via Kingston.
Nov. 8	Buenos Aires	Spanish Line	Barcelona via wayports.
Nov. 8	Carrillo	United Fruit Co	Colombian ports.
Nov. 10	Van Renselaer	Royal Netherlands W. I Mail	Port Limon.
Nov. 10	Coronado	Elders & Fyffes, Ltd	Port Limon.
Nov. 10	Camden	United Fruit Co	Tampico.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Nov. 5	Turrialba	United Fruit Co	New York via Bocas del Toro.
Nov. 7	St. Mihiel [10]	U. S. Army	New York.
Nov. 7	Van Renselaer	Royal Netherands W. I. Mail	Port Limon.
Nov. 8	San Bruno	United Fruit Co	Boston via Port Limon.
Nov. 8	Toloa	United Fruit Co	New York via wayports.
Nov. 9	Tivives	United Fruit Co	Colombian ports.
Nov. 9	Cartago	United Fruit Co	New Orleans via wayports.
Nov. 9	Alexandrian	Leyland Line	Kingston.
Nov. 9	Carrillo	United Fruit Co	New York via Kingston.
Nov. 10	La Navarre	French Line	St. Nazaire and wayports.
Nov. 10	Panama	Panama Railroad Steamship Line	New York via Haiti.
Nov. 10	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
Nov. 10	Coronado	Elders & Fyffes, Ltd	Kingston.

[10] Transport.

PORT OF BALBOA.

Nov. 7	Guardian	All America Cables Co	Salina Cruz (Mexico).
Nov 11	Jeptha	U. S. Shipping Board	Valparaiso.
Nov. 11	Jeptha	U. S. Shipping Board	San Francisco.

* Other than ships passing through the Canal.

Addition to Pacific Mail Service.

The steamer *Corinto* of the Pacific Mail, passing through the Canal on November 7 on her way from New York to San Francisco via Central American and Mexican ports on the west coast, was on her first voyage in the service of that company. She is to be assigned to the San Francisco-Panama Canal service, in which the *San Juan*, *Newport*, and *Cuba* are now engaged, and the frequency of sailings is to be increased from every 3 weeks to every 15 days. Including the New York line sailings, the Pacific Mail will have weekly service between the west coast and the Canal, instead of every 10 days.

The *Corinto* was built in Bremerhaven in 1905. At the time of her purchase by the Pacific Mail she was known as the *Caldas*.

Passage of the Electrically-driven "Kamoi."

The new fuel ship *Kamoi* of the Japanese Navy made the transit of the Canal on October 28, on her way out from the plant on the Delaware River, where she was built, to Yokohama.

The *Kamoi* is said to be the first electrically-propelled naval vessel, excepting those in the Navy of the United States. She is driven by two 4,000-horsepower synchronous motors, direct-connected with the propellers, and supplied with current by an 8,000-horsepower turbine generator. Tests made during her trials are reported as demonstrating that the *Kamoi* is "the most economically operated steam vessel of her size afloat."

At the time of transit through the Canal the *Kamoi* was carrying a cargo of 7,000 tons of fuel oil, taken on at Vera Cruz. Her total crew numbered 189.

Passage of New German Motorship "Isis."

The German motorship *Isis* of the Kosmos Line, a new vessel, arrived at the Canal on October 18, on her way from Hamburg, via Bremen, Rotterdam, and Antwerp, to west coast ports in Colombia, Ecuador, Peru, and Chile. This is the maiden voyage of the ship. Her trial trips were completed in September, and directly afterward she began loading for the west coast. She carried out 5,052 tons of general cargo.

The *Isis* is 376 feet in length by 51 feet 6 inches beam, of 4,454 gross and 2,618 net registered tons. She is driven by twin Diesel engines of 1,550 indicated horsepower, and makes a normal speed of 12½ knots.

Notice to Mariners.—Roncador Bank Light.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 2, 1922.

The characteristics of Roncador Bank Light were changed November 1, 1922, in accordance with my circular of October 7, 1922:

Its characteristics are:

Flash white, period 10 seconds. Flash 1 second, eclipse 9 seconds. No other change.

Location: Lat. 13° 34′ N., Long. 80° 04′ W.

M. L. WALKER,
Acting Governor.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended November 4:

Steamships *Kamoi*, manufacture water glasses; *G. Harrison Smith*, services of diver and outfit to recover lost anchor at anchorage grounds; *East Wind*, repair dynamo engine; *Lancaster*, miscellaneous small repairs in engine room.

PREVIOUSLY REPORTED.

Tugs *Gatun*, dock, stage and clean, paint under water body, repair stern bushing and sea valves; *Bohio*, dock, stage and clean, paint under water body, repair sea valves; crane boat *La Valley*, dock, stage and clean, paint under water body, general repairs and alterations; *L-55*, remove from rocks, tow to Balboa shops, place on docks, and remove engine and hull sheathing in way of damages; U. S. submarine *O-14*, dock and routine repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull machinery and deck houses.

The following vessels were at the Cristobal shops for repairs during the two weeks ended November 11:

Steamship *Acajutla*, repair hatches, lock up room, sounding machine fairlead, 6 burner strainers, and 7 dining saloon chairs; clear pantry sink; manufacture 4 piston rings for winches, new gudgeon pin for reversing engine and nipple and coupling for steam hose for boiler tubes; tug *Tavernilla*, make new pin and bushing for feed pump; steamships *Parismina*, remetal guide for main engine; *Poe*, repair lifeboats, main deck and feed water line, etc.; *Panama*, repair piping in fireman's quarters; *Advance*, calk main deck at No. 1 hatch; repair leak in motorboat and overhaul motor boat engine; *Mantaro*, tug *Porto Bello*, launches *Eunice* and *Gold Star*, minor repairs; steamships *Corinto*, repair copper drain pipes on main engines; repair feed water header; supply and install 2-inch pipe line from forepeak to domestic tank in engine room; *Cambridge*, manufacture 2 neck bushings and 1 lantern gland for refrigerating machinery; *Cauca*, paint ship's sides; *Jamaica*, paint ship's sides; *Cuba*, manufacture 8 rings for steam end of auxiliary circulating pump; *Colon*, repair lifeboat as directed; U. S. Jr. M. P. *Nones*, docked, cleaned bottom, and repair copper sheathing; tug *Porto Bello*, repair main steam line; barge *No. 169*, dock, clean, and repair fenders; steamships *Standard* and *Strathlorn*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending November 11, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Hwah Ping	Chungwa Navigation Co.	October 29.	October 30.	510	
Baja California	A. O. Lindvig	October 29.	October 30.	142	7
San Francisco	Johnson Line	October 30.	October 30.	450	5
Theodore Roosevelt.	Norway-Pacific Line	November 1.	November 1.	140	
Heffron	Tampa Inter-Ocean Steamship Co	November 3	November 4.	282	
Imperial	South American Line	November 3	November 4	100	
Laura C. Hall	Pacific Metals Transp. Co., Ltd.	November 3.		10	
General O. H. Ernst	Panama Railroad Steamship Line	November 4	November 4	300	
Ansaldo San Giorgio I	Societa Nazaionale di Navigazione.	November 5	November 6.	165	
Capella	U. S. Navy	November 7.	November 7	9	
Corinto	Pacific Mail Steamship Co	November 8	November 8.	2	
Hoven	U. S. Shipping Board	November 7	November 8	3,572	
Cuba	Pacific Mail Steamship Co	November 11.	November 11.	16	
Jadden	U. S. Shipping Board	November 5	November 11.		3,135
Acajutla	Pacific Steam Navigation Co	November 10	November 10		126
Lima	Johnson Line	November 10	November 10	54	
Pedro Christopherson	Johnson Line	November 11.	November 11.		102
Jeptha	U. S. Shipping Board	November 11.	November 11.	20	

Needless Gasoline and Kerosene Fires.

The Chief of the Police and Fire Division calls attention to the fact that of the 7 fires attended by the fire department in the Canal Zone in the month of October, 5 were caused by the careless handling of kerosene or gasoline. A sixth originated, from an unknown cause, in an oil and paint shop.

The inflammable and explosive properties of kerosene and gasoline are well understood, and it is urged that care be taken in their handling.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending November 11, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Columbia	N. O. & S. A. S. S. Line		October 29		114½
General W. C. Gorgas	Panama Railroad Steamship Line		October 30		2,067
San Francisco	Johnson Line	October 29	October 30	110	817
Abangarez	United Fruit Co	October 29	October 30	(1)	186
Paul H. Harwood	Pan-American Pet. & Transp. Co	October 29	October 31	6,000	(2)
Moerdijk	Holland-American Line	October 30	October 31	13	194
Mantaro	Peruvian Line		October 31		340
Parismina	United Fruit Co	October 30	November 1	1,100	(2)
Haimon	Roland Line	October 31	November 1	96	(2)
Ulua	United Fruit Co	October 31	November 1	150	69
Carrillo	United Fruit Co	November 1	November 2	144	252
Sixaola	United Fruit Co	November 1	November 2	1	40
Advance	Panama Railroad Steamship Line	November 1	November 3	419½	(2)
Abangarez	United Fruit Co	November 2	November 2	¼	(2)
Panama	Panama Railroad Steamship Line	November 2		1,697	
General O. H. Ernst	Panama Railroad Steamship Line	November 3		107	
Helder	Royal Netherlands W. I. Mail	November 4		126	
Ansaldo San Giorgio III	Societa Nazionale di Navigazione	November 4		18	
Ucayali	Peruvian Line	November 4		643	
Imperial	Chilean Line	November 4		323	
San Benito	United Fruit Co	November 4	November 4	10½	49
Acajutla	Pacific Steam Navigation Co	November 4		413	
Heffron	Tampa Inter-Ocean Steamship Co	November 4	November 4	182	(2)
General O. H. Ernst	Panama Railroad Steamship Line		November 5		118
Helder	Royal Netherlands W. I. Mail		November 5		7½
Turrialba	United Fruit Co	November 5	November 5	(1)	46
Delft	Royal Netherlands W. I. Mail	November 5	November 6	100	59½
Van Rensselaer	Royal Netherlands W. I. Mail	November 6	November 7	60	(2)
Hoven	Walker & Daily	November 6	November 7	2,857	(2)
Santa Olivia	Pacific Mail Steamship Co	November 6	November 7	22	50
Corinto	Pacific Mail Steamship Co	November 6	November 8	95	412½
Imperial	Chilean Line		November 8		690
Toloa	United Fruit Co	November 7	November 8	318	28
San Bruno	United Fruit Co	November 7	November 8	111	(2)
Alexandrian	Leyland Line	November 7	November 9	543	124
La Navarre	French Line	November 7	November 9	80	283
Cartago	United Fruit Co	November 7	November 9	1,261	(2)
Carrillo	United Fruit Co	November 8	November 9	4	82
Tivives	United Fruit Co	November 8	November 9	119	38
Buenos Aires	Spanish Line	November 8		275	
Ucayali	Peruvian Line		November 9		582
Panama	Panama Railroad Steamship Line		November 10		1,675
Acajutla	Pacific Steam Navigation Co		November 10		833
Coronado	Elder & Fyffes, Ltd	November 10	November 10	7	(2)
Van Rensselaer	Royal Netherlands W. I. Mail	November 10	November 10	(3)	214
Huasco	Chilean Line	November 10		57	
Camden	United Fruit Co	November 10		8,810	
Borglum	Grace Line	November 10	November 11	51	131
Cuba	Pacific Mail Steamship Co	November 11		467	
Essequibo	Pacific Steam Navigation Co	November 11		126	
Losada	Pacific Steam Navigation Co	November 11		66	

[1] No cargo discharged. [2] No cargo laded. [3] Three cases.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometric comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Foot and Mouth Disease in Jamaica.

THE PANAMA CANAL, HEALTH DEPARTMENT,
BALBOA HEIGHTS, C. Z., November 2, 1922.

To all concerned—On account of the prevalence of foot and mouth disease in Jamaica, effective at once the following are prohibited entry into the Canal Zone or the cities of Panama and Colon, either permanently or for transshipment:

Horses, mules, asses, cattle, sheep, swine, goats, chickens, or any other domesticated fowls, hides or skins of any description; hay, grain, straw, or goods packed in grass, hay, or straw, from the Island of Jamaica.

Other articles of cargo or baggage will be disinfected when this may be found necessary by the Chief Quarantine Officer. Also, any ship known to have carried hides or domesticated animals from Jamaica to any other point, calling at a Canal port, will be required to be or to have been thoroughly disinfected before handling any goods destined for, or to be transshipped at, Canal Zone ports.

C. A. HEARNE,
Acting Chief Quarantine Officer.

Approved:
M. L. WALKER,
Acting Governor.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective November 13, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.11
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy,i n drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine,g as, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Official Circular.

Sales of Imported Tobacco.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 9, 1922.

To all concerned—Attention is called to the fact that imported tobacco carried in commissaries, clubhouses, restaurants, Army and Navy Y. M. C. A.'s, and the post exchanges can only be sold to persons in the service of the United States Government (including Panama Canal and Panama Railroad employees and the personnel of the Army and Navy), or to persons holding special authorizations, such as diplomatic officers and Government contractors.

It is the duty of those responsible for these activities to take action to see that sales of tobacco are absolutely restricted to those entitled to make purchases, and all sales people must be carefully instructed on this subject. A violation of instructions should be cause for immediate dismissal from the service.

In the case of those activities not under administrative control of the Governor as to personnel, it will be necessary to withdraw the free entry privilege on tobacco if sales are not properly regulated in the manner outlined above.

JAY J. MORROW, *Governor.*

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, $1.50 per year; foreign, $2.00; address The Panama Canal Record; Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., November 22, 1922. No. 15.

Commercial Traffic for First Half of November.

From November 1 to close of business November 15, 1922, a total of 154 commercial vessels made the transit of the Canal, or an average of 10.27 vessels per day. Of the above, 80 were northbound and 74 southbound.

Tolls on the above totaled $654,582.53, of which $337,136.36 was paid by vessels transiting the Canal northbound and $317,446.17 by southbound vessels.

Should the traffic for the last half of the calendar month equal that for the first half, last month's record figures for both number of vessels transiting the Canal and tolls collected will be exceeded by the present month's traffic, notwithstanding that November has but 30 days as against 31 for October.

The average number of commercial ships per day through the Canal during October was 9.48, and the average daily tolls, $40,500.26. For the 15 days of November, the average number of commercial vessels transiting the Canal was 10.27 vessels per day, as stated above, and the average daily tolls, $43,639.47, or $3,139.21 more per day than last month's record figures.

Increasing Traffic in Iron Ore.

The steamer *Steelore*, owned by the Ore Steamship Corporation of New York, passed through the Canal southbound in ballast, November 9, en route from Baltimore to Cruz Grande, Chile, to load a cargo of iron ore.

The *Steelore* was launched at the Sparrow's Point plant of the Bethlehem Shipbuilding Corporation on August 15, 1922, and is the third vessel of this capacity and same general type that has been built by the Bethlehem Company for the Ore Steamship Corporation, the other two vessels being the *Bethore* and the *Marore*, both of which have been operating through the Canal for the past several months in the transportation of ore from Cruz Grande to Baltimore.

The *Steelore* is propelled by 2 Curtis-type turbines, with single reduction gear, and has a speed of 11½ knots. Her principal dimensions are as follows: Length overall, 571.6 feet; length between perpendiculars, 550.1 feet; breadth, molded, 72 feet; depth, molded, 44 feet; draft, loaded, 32.4 feet; deadweight capacity, 20,500 tons; and registered gross and net tonnage of 8,216 and 4,173 tons, respectively.

Two more vessels are now under course of construction for the Ore Steamship Company at the Alameda plant of the Bethlehem Shipbuilding Corporation, viz., the sister-ships *Chilore* and *Lebore* of 20,000 deadweight tons. With all of these vessels in service in the transportation of iron ore from South America to the Atlantic coast of the United States, iron ore will be one of the principal commodities passing through the Canal.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 18, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Radames	11	16.19	12	6.22	12	14.34	12	15.39	German	Kosmos Line	380.0	47.0	20.4	Hamburg	Guayaquil	General	2,550	4,971	3,486
Essequibo	11	12.25	12	7.05	12	15.30	12	17.11	British	Pacific Steam Navigation Co	450.0	57.0	23.5	New York	Valparaiso	General	1,777	9,099	6,117
Logician	12	6.30	12	9.05	12	16.29	12	17.35	British	Harrison Line	400.0	47.5	16.0	Demerara	Vancouver	Sugar and rice	2,754	5,124	3,697
Acasta	12	7.00	12	9.30	12	16.55	12	22.31	British	Anglo-Saxon Petroleum Co	400.0	52.4	16.0	Las Palmas	Los Angeles	Ballast	....	6,134	4,604
Steel Scientist	11	23.14	12	11.50	12	18.36	12	19.47	American	U. S. Steel Products Co	424.2	56.2	26.9	Baltimore	Honolulu	General, steel	8,430	7,611	5,454
Patuxent [1]	....	....	12	9.47	12	15.32	....	....	American	U. S. Navy	156.0	24.0	....	Gatun Lake	Balboa				
Grande Gaard	13	6.35	13	7.15	13	14.47	13	19.40	Norwegian	Hendrik Ostervoll	420.0	54.0	19.0	New York	Portland	General	6,040	6,963	5,051
Texan	14	3.31	14	6.35	14	13.55	14	14.45	American	American-Hawaiian Line	471.0	57.6	23.6	Boston	Los Angeles	General	6,914	9,154	6,970
Eumaeos	14	6.22	14	7.20	14	14.45	14	16.08	British	Alfred Holt & Co	459.0	56.0	23.0	New York	Yokohama	General	2,030	7,964	5,616
Dixie Arrow	14	12.40	14	12.55	14	20.31	14	21.52	American	Standard Transportation Co	468.0	62.6	26.6	Sabine	Hongkong	Petroleum	11,090	9,744	6,973
Haarlem	15	3.17	15	6.30	15	13.56	15	23.15	Dutch	Royal Netherlands W. I. Mail	362.0	50.0	20.0	Amsterdam	San Antonio	Coke	4,20	4,759	3,660
Songvand	15	8.12	15	10.00	15	19.00	15	20.26	Norwegian	S. O. Stray & Co	330.0	47.0	16.0	New York	Valparaiso	General	1,300	3,783	2,565
Alvarado	14	22.06	16	6.05	16	13.55	18	17.40	British	McAndrews & Co	303.0	43.0	18.2	New York	Guayaquil	General, coal	1,090	2,844	1,748
Laura C. Hall [2]	14	10.57	16	6.15	16	13.57	18	9.36	British	Pacific Metals Corp	81.0	25.6	9.0	P. Colombia	Buenaventura	General	50	132	72
Oregonian	15	21.15	16	7.35	16	14.52	16	15.55	American	American-Hawaiian Line	496.8	51.0	26.0	Baltimore	Los Angeles	General	6,000	5,959	4,203
Huasco	10	14.00	16	9.07	16	15.39	16	23.10	Chile	Chilean Steamship Line	380.0	41.0	21.11	Cristobal	Valparaiso	General	1,109	4,552	3,182
Bowes Castle	16	8.46	16	11.05	16	17.55	16	19.00	British	James Chambers & Co	430.0	55.2	27.3	Boston	Honolulu	General, oil	7,600	6,675	4,698
Montauk	17	10.55	17	11.05	17	18.33	17	20.20	American	International Mercantile Marine	419.5	56.0	25.0	Philadelphia	Los Angeles	General	7,200	8,695	6,316
Shawmut [3]	17	12.00	17	12.20	17	19.26	18	19.00	American	U. S. Navy	375.0	52.2	18.0	Hampton R'ds	La Libertad				
Rangoon Maru	17	17.20	18	6.18	18	13.56	18	15.05	Japanese	Nippon Yusen Kaisha	400.0	51.9	20.2	New York	Yokohama	(5)	3,574	5,559	4,106
Katuna	17	20.45	18	7.20	18	14.46	18	15.50	British	Ellerman & Bucknell	400.0	52.1	16.0	Pensacola	Vancouver	Ballast		6,025	4,392
Ionic	17	22.08	18	7.57	18	15.30	19	0.45	British	White Star Line	500.3	63.3	27.0	London	Wellington	General	4,500	12,872	9,577
Kennecott [4]	17	18.34	18	8.45	18	16.09	18	17.05	American	Alaska Steamship Co	345.3	49.6	19.5	New York	Los Angeles	General, steel	3,742	4,593	3,381
Robert E. Hopkins	18	9.12	18	9.40	18	17.00	18	18.10	American	Tidewater Oil Co	424.0	58.0	22.0	New York	Los Angeles	Ballast		7,333	5,244
Norman Monarch	18	11.25	18	11.40	18	18.26	18	20.09	British	Monarch Line	400.0	52.0	18.0	Newport News	Mejillones	Ballast	....	5,568	4,146
St. Joseph	18	6.09	18	11.50	18	19.06	18	19.25	French	French Line	397.0	51.0	18.0	Havre	Vancouver	General	1,015	5,970	4,170
Venezuela	17	18.45	18	12.32	18	19.53	19	13.15	American	Pacific Mail Steamship Co	380.0	48.7	22.6	Baltimore	San Francisco	General	2,625	6,030	4,353

[1] Tug. [2] Motor schooner. [3] Mine planter. [4] Motor ship. [5] Machinery, cotton, lubricating oil, steel sheets, and merchandise.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

H. H. Asquith	11	15.20	12	7.06	12	15.20	12	16.45	British	Williams & Moodey	340.0	52.5	26.0	Mejillones	New York	Copper ore	8,000	5,692	3,819
Chickasaw City	11	18.00	12	7.28	12	15.40	12	16.24	American	U. S. Steel Products Co	395.5	55.0	25.0	Seattle	Liverpool	General	8,000	6,841	4,686
Georgian	11	20.35	12	8.52	12	16.30	12	16.30	American	United American Lines	386.8	52.2	25.0	Los Angeles	New York	General, lumber	7,625	5,719	4,023
Yankee Arrow	11	20.45	12	9.54	12	16.56	12	16.56	American	Standard Transport Co	468.3	62.7	19.3	Hankow	Beaumont	Ballast		9,841	6,941

Chuky	11	22.30	12	10.17	12	17.41	12	17.41	British	Chile Steamship Co	440.8	56.0	14.0	Tocopilla	Tampico	Ballast		7,636	4,942
North American	12	0.30	12	10.49	12	18.20	12	19.05	British	American Metal Transport. Co	251.0	43.6	20.2	Callao	New York	General	3,200	2,444	1,571
Datchet	12	3.00	12	11.48	12	19.39	12	22.16	British	Watts, Watts, & Co	323.1	47.2	20.6	Antofagasta	Gibraltar[6]	Nitrate	4,650	3,418	2,442
Iowan	12	10.36	12	12.58	12	20.10	12	20.10	American	United American Lines	497.7	53.7	25.0	Seattle	Philadelphia	General	6,537	7,091	5,002
Magdala	12	12.15	12	13.12	12	21.00	12	23.25	Danish	East Asiatic Steamship Co	359.9	51.9	24.6	Valparaiso	Hamburg	General	6,647	4,715	3,384
Ebro	12	18.05	13	7.08	13	13.49	13	17.39	British	Pacific Steam Navigation Co	450.0	58.0	26.6	Valparaiso	New York	General	4,376	9,151	6,227
Zenen	13	12.30	13	7.45	13	15.15	13	17.00	French	French Line	425.0	55.0	25.6	Vancouver	Hull	Barley, wheat	7,000	6,982	4,934
Buenos Aires	13	4.00	13	8.25	13	16.07	13	16.07	Swedish	Johnson Line	440.0	56.0	26.0	San Francisco	Dublin	Grain	7,650	7,591	5,661
Lydonia	9	16.30	13	9.16	13	17.10	15	8.30	American	U. S. Coast and Geodetic Survey	180.0	26.0	12.6	San Diego	Jacksonville				
Birmingham			13	9.54	13	17.10	14	1.20	American	U. S. Navy	420.0	47.0	18.2	Balboa	Cristobal[6]				
Craftsman	13	8.00	13	11.08	13	18.18	13	20.40	British	T. and J. Harrison	455.4	57.0	25.1	Vancouver	Liverpool	General	8,000	7,769	5,486
Santa Ana	13	7.00	13	11.52	13	19.10	13	23.20	American	Grace Line	360.2	51.6	24.6	Talcahuano	New York	Nitrate	3,931	5,776	4,081
Autolbrook	13	15.2	13	12.35	13	20.30	14	0.15	British	Commonwealth Government	375.5	52.2	19.0	Newcastle	London	Copper, general	3,732	4,860	3,579
Patoka	12	19.30	14	7.15	14	14.3	15	8.13	American	U. S. Navy	461.6	60.0	20.0	San Francisco	Norfolk	Oil			
Tatjana	13	15.0	14	7.2	14	15.5	14	15.52	Norwegian	Winge & Co	400.9	52.6	25.6	Tocopilla	Colon[6]	Nitrate	7,913	6,169	4,297
Tolima	13	16.4	14	8.4	14	17.0	14	18.50	Norwegian	Grace Line	417.8	54.0	29.3	Punta Arenas	New York	General	9,602	7,176	5,219
Walter A. Luckenbach	13	18.1	14	9.35	14	17.3	14	17.30	American	Luckenbach Line	446.5	56.1	28.0	San Francisco	New York	General	9,100	8,785	6,567
Manavi	14	9.0	14	11.15	14	18.5			British	Pacific Steam Navigation Co	216.0	35.1	15.0	Guayaquil	Cristobal	General	806	1,357	884
Havana Maru	14	19.5	14	11.26	14	19.27	14	20.5	Japanese	M. Sekio	407.0	51.0	20.0	Singapore	New York	General	5,951	6,234	4,500
Suruga	13	19.1	15	7.00	15	14.21	16	2.41	American	Barber Line	375.3	52.0	18.0	Shimidza	New York	General	5,312	5,177	3,877
Vindeggen	14	23.0	15	7.59	15	15.06	15	15.05	Norwegian	Jone Folkman	230.8	46.8	20.10	Iquique	Delaware Riv'r	Nitrate	4,500	3,517	2,268
Euterpe	15	7.00	15	8.53	15	17.30	15	18.10	British	Sandon Shipping	339.5	47.0	23.6	Mejillones	Alexandria	Nitrate	5,538	4,386	3,167
Rhodopis	15	6.00	15	9.35	15	18.05	15	20.40	German	Kosmos Line	436.0	53.2	24.10	Corral	Hamburg	Nitrate	6,948	7,525	5,154
Borgland	15	6.30	15	10.05	15	18.40	15	21.40	Norwegian	Norway Pacific Line	362.0	51.5	25.0	Portland	Christiania	General	6,200	5,274	3,886
Garfield	15	10.00	15	12.08	15	19.35	16	20.35	American	Grace Line	299.4	45.0	18.8	Chancay	New York	General	2,000	3,238	2,010
Canadian Victor	15	14.00	15	14.58	15	22.19	15	22.10	British	Canadian Gov't. Mer. Marine	490.0	52.4	20.6	Brisbane	Halifax	General	4,500	5,956	4,160
Bethore	9	8.30	15	15.25	16	13.40	16	13.40	American	Ore Steamship Co	550.0	72.0	32.8	Cruz Grande	New York	Iron ore	19,450	15,476	11,102
Roma	15	17.45	16	7.27	16	15.14	16	16.10	British	Rowland & Marwood	342.0	50.0	22.6	Taltal	Dunkirk	Nitrate	5,750	4,087	2,955
Peursum	16	6.00	16	8.02	16	15.45	16	17.23	Dutch	N. O. & S. A. S. S. Co	230.0	40.0	20.2	Tocopilla	New Orleans	Nitrate	3,260	2,713	1,867
Lehigh	16	7.20	16	9.30	16	17.21	16	17.21	American	North Atlantic & Western	390.0	54.2	25.10	Seattle	Portland, Me	General	6,650	6,142	4,276
Eagle	16	10.00	16	10.50	16	18.32	16	18.32	American	Crowell & Thurlow	410.0	56.0	27.0	Tacoma	Baltimore	General	8,034	8,243	6,266
Orcus	16	12.05	16	12.40	16	20.45	17	0.55	American	Wessel, Duval & Co	380.2	53.1	23.0	Talcahuano	New York	Nitrate	6,999	5,667	4,227
Urubamba	16	8.00	16	14.11	16	23.1			Peruvian	Peruvian Line	381.2	46.1	20.0	Ibilo	Cristobal	General		4,803	2,951
Ecuador	16	7.25	17	7.19	17	14.0	18	12.10	British	Royal Mail Steam Packet Co	380.6	43.7	24.5	San Francisco	New York	General	3,799	5,926	4,178
Benrcoch	17	7.40	17	8.39	17	16.10	17	20.35	British	Ben Line, Ltd	420.0	54.0	26.0	Vancouver	Pireaus	Wheat	8,000	6,425	4,068
Toco	17	11.50	17	12.38	17	19.32	17	22.00	British	Sheridan Steamship Co	440.8	56.0	20.0	Tocopilla	Tampico	Ballast		7,693	4,885
Sabine Sun	16	22.15	17	14.20	17	21.45	17	21.45	American	Sun Co	429.3	59.2	27.4	Los Angeles	Chester	Oil	10,300	7,898	5,459
Cepolis	17	21.00	18	7.04	18	15.05	18	16.26	British	Anglo-Saxon Petroleum Co	400.0	52.0	26.0	Los Angeles	Gibraltar[6]	Oil	7,555	6,035	3,917
Almelo	17	23.45	18	7.57	18	16.45	19	0.02	Dutch	Royal Dutch W. I. Mail	440.0	62.6	27.6	Valparaiso	Hamburg	Nitrate, general	19,900	9,403	6,653
Benvorlich	18	6.10	18	8.30	18	16.56	18	22.25	British	Ben Line, Ltd	400.6	52.0	24.7	Portland	Algiers	Wheat	7,396	5,770	4,073
City of Durham	18	7.00	18	10.02	18	17.07	18	21.05	British	Norton, Lilly & Co	407.0	51.4	28.0	Vancouver	Hull	General	7,831	6,069	45,07
Orita	18	6.10	18	10.36	18	8.20	19	5.04	British	Pacific Steam Navigation Co	502.0	58.2	28.0	Valparaiso	Liverpool	General	7,335	9,036	6,561
Lyons Maru	18	8.40	18	11.40	18	9.02	18	19.02	Japanese	Nippon Yusen Kabushiki Kaisha	445.0	58.0	19.5	Yokohama	New York	General	6,583	7,720	5,497
Paparoa	18	8.30	18	12.53	18	20.50	19	1.40	British	New Zealand Shipping Co	430.0	54.2	24.6	Dunedin	Hull	General	4,952	7,894	5,857

[6] For orders.

Hours are expressed on the 24 hour basis and all hours greater than 12 are postmeridian.

(Continued on page 186, column 2.)

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, October, 1922.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.						Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.[1]	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Far East.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
United States:																								
North Atlantic ports	4,624	1,568	171	2,882	5,514	14,759	155,461	273	.....	9,169	557	165,463	30,328	1,604	152	30,799	62,883	4,173	18,128	11,201	33,502	.....	276,607	49.0
South Atlantic ports	386	.....	.....	.....	.....	386	3,135	.....	.....	.....	.....	3,135	.....	628	.....	1,147	1,775	.....	.....	510	510	.....	5,806	1.0
Gulf ports	2,350	.....	.....	.....	1,775	4,125	17,619	.....	.....	.....	.....	17,619	6,239	18,185	157	14,278	38,860	1,000	4,494	6	5,500	4,837	70,941	12.5
Totals, United States	7,360	1,568	171	2,882	7,289	19,270	176,218	273	.....	9,169	557	186,217	36,567	20,418	309	46,224	103,518	5,173	22,622	11,717	39,512	4,837	353,354	62.5
East coast of Mexico	25,885	.....	.....	.....	.....	25,885	.....	.....	.....	.....	.....	.....	7,000	.....	.....	.....	7,000	.....	1,000	.....	1,000	.....	33,885	6.0
Cristobal, C. Z.[2]	.....	206	84	617	1,823	2,730	58	50	.....	1,321	2,494	3,926	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,656	1.2
West Indies	.....	.....	.....	.....	118	118	.....	.....	3,100	.....	.....	3,100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,218	0.6
East coast of Canada	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,490	11,490	.....	11,490	2.0
Totals, North America	33,245	1,774	255	3,499	9,230	18,003	176,276	323	3,100	10,493	3,051	193,243	43,567	20,418	309	46,224	110,518	5,173	23,622	23,207	52,002	4,837	408,603	72.3
Europe:																								
Belgium	380	.....	.....	.....	1,237	1,617	5,679	426	50	1,512	.....	7,667	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,284	1.6
British Isles	13,242	.....	.....	6,939	12,824	33,005	23,594	.....	1,608	7,781	.....	32,893	.....	.....	.....	.....	.....	16,390	10	16,686	33,086	.....	98,984	17.5
France	.....	.....	10	15	520	545	95	.....	.....	.....	.....	95	.....	.....	.....	.....	.....	.....	.....	1,228	1,228	.....	1,868	0.3
Germany	1,818	.....	800	33	3,989	6,640	213	.....	.....	705	.....	918	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,558	1.4
Holland	28	.....	.....	.....	.....	28	3,494	.....	.....	210	.....	3,704	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,732	0.7
Norway and Sweden	.....	.....	.....	.....	.....	.....	4,507	.....	.....	.....	493	5,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,000	0.9
Europe[1]	6	.....	.....	.....	19,367	19,373	62	.....	60	2,001	.....	2,123	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21,496	3.8
Totals, Europe	15,474	.....	810	6,987	37,937	61,208	37,554	426	1,718	12,209	493	51,400	.....	.....	.....	.....	.....	16,390	10	17,914	34,314	.....	147,922	26.2
East coast of South America	.....	463	.....	2,590	20	3,073	5,386	.....	91	.....	.....	5,477	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,550	1.5
Grand totals	48,719	2,237	1,065	13,076	47,187	112,284	219,216	749	4,909	22,702	3,544	251,120	43,567	20,418	309	46,224	110,518	21,563	23,632	41,121	86,316	4,837	565,075	100.0
Per cent of total cargo:																								
October, 1922	8.6	0.4	0.2	2.3	8.4	19.9	38.8	0.1	0.9	4.0	0.6	44.4	7.7	3.6	.....	8.2	19.5	3.8	4.2	7.3	15.3	0.9	100.0	.....
September, 1922	4.0	0.1	0.1	1.1	6.7	12.0	44.9	0.3	0.1	2.5	0.4	48.2	5.3	8.1	.....	11.9	25.3	4.0	5.9	4.1	14.0	0.5	.....	.....
October, 1921	6.1	0.3	0.2	1.9	2.4	10.9	31.8	.....	4.4	.....	2.2	38.4	23.8	9.0	0.4	2.1	35.5	9.9	2.7	2.5	15.1	0.1	.....	.....

[1] General cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transfer cargo.

Distribution of Cargo Passing Through the Panama Canal from Pacific to Atlantic, October, 1922.

(Figures represent tons of 2,240 pounds.)

From—	North America.								Europe.														
	United States.				East coast of Canada.	West Indies.	Cristobal, C. Z.	Total, North America.	Belgium.	British Isles.	France.	Germany.	Holland.	Italy.	Denmark.	Spain.	Norway and Sweden.	Europe.[1]	Total, Europe.	East coast of South America.	Africa.	Grand totals.	Per cent of total cargo.
	North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.																			
South America:																							
Chile	76,507	39,180	14,828	130,515	.....	7,754	202	138,471	4,835	13,900	2,867	1,943	318	516	....	5,500	.....	33,644	63,523	7	21,234	223,235	25.3
Colombia	846	.....	.....	846	.....	.....	836	1,682	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	1,682	0.2
Ecuador	2,670	.....	.....	2,670	.....	.....	2,918	5,588	.....	.....	408	130	96	1,277	....	50	.....	98	2,059	.....	.....	7,647	0.9
Peru	15,825	.....	.....	15,825	.....	7,350	1,990	25,165	1,407	26,034	.....	285	....	25	....	.....	.....	358	28,109	.....	.....	53,274	6.1
West coast of South America[1]	6,329	.....	.....	6,329	.....	.....	46	6,375	.....	5,944	.....	.....	....	.....	....	.....	.....	127	6,071	.....	.....	12,446	1.4
Totals, South America	102,177	39,180	14,828	156,185	.....	15,104	5,992	177,281	6,242	45,878	3,275	2,358	414	1,818	....	5,550	.....	34,227	99,762	7	21,234	298,284	33.9
North America:																							
West coast of United States	228,753	9,912	6,196	244,861	.....	1,759	4,757	251,377	3,400	104,838	8,089	2,351	....	23,098	28	.....	9,012	88,462	239,278	667	7,506	498,828	56.6
West coast of Canada	11,353	.....	.....	11,353	13,866	.....	.....	25,219	.....	900	10	.....	....	.....	....	.....	.....	1,480	2,390	.....	.....	27,609	3.1
West coast of Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,050	....	.....	....	.....	.....	.....	1,050	.....	.....	1,050	0.1
West coast of Central America	44	.....	.....	44	.....	46	533	623	.....	415	477	90	....	.....	....	.....	293	595	1,870	.....	.....	2,493	0.3
West coast of North America[1]	4,394	.....	.....	4,394	.....	.....	.....	4,394	.....	6,124	.....	.....	....	.....	....	.....	.....	5,038	11,162	.....	.....	15,556	1.8
Totals, North America	244,544	9,912	6,196	260,652	13,866	1,805	5,290	281,613	3,400	112,277	8,576	3,491	....	23,098	28	.....	9,305	95,575	255,750	667	7,506	545,536	61.9
Asia:																							
China	383	.....	.....	383	.....	.....	.....	383	.....	.....	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	383	....
Japan	1,174	.....	.....	1,174	.....	.....	.....	1,174	.....	7,971	.....	.....	....	.....	....	.....	.....	.....	7,971	.....	.....	9,145	1.0
Philippines	12,371	.....	.....	12,371	.....	.....	.....	12,371	.....	.....	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	12,371	1.4
Far East[1]	5,795	.....	.....	5,795	.....	1,900	.....	7,695	.....	.....	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	7,695	0.9
Totals, Asia:	19,723	.....	.....	19,723	.....	1,900	.....	21,623	.....	7,971	.....	.....	....	.....	....	.....	.....	.....	7,971	.....	.....	29,594	3.3
Australasia:																							
Australia	118	.....	.....	118	.....	.....	.....	118	.....	.....	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	118	....
New Zealand	1,410	.....	.....	1,410	.....	.....	.....	1,410	.....	.....	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	1,410	0.2
Australasia[1]	645	.....	.....	645	687	.....	.....	1,332	.....	.....	.....	.....	....	.....	....	.....	.....	4,514	4,514	.....	.....	5,846	0.7
Total, Australasia	2,173	.....	.....	2,173	687	.....	.....	2,860	.....	.....	.....	.....	....	.....	....	.....	.....	4,514	4,514	.....	.....	7,374	0.9
Grand totals	368,617	49,092	21,024	438,733	14,553	18,809	11,282	483,377	9,642	166,126	11,851	5,849	414	24,916	28	5,550	9,305	134,316	367,997	674	28,740	880,788	100.0
Per cent of total cargo:																							
October, 1922	41.8	5.6	2.4	49.8	1.6	2.2	1.3	54.9	1.1	18.9	1.4	0.7	....	2.7	....	0.6	1.1	15.3	41.8	0.1	3.2	100.0	....
September, 1922	50.7	1.8	1.9	54.4	.....	5.6	2.3	62.4	0.2	15.7	2.3	0.8	0.6	0.1	....	0.8	.....	15.6	36.1	....	1.5	.....	....
October, 1921	28.9	0.3	0.4	29.6	0.1	0.8	2.4	33.7	0.5	33.2	2.0	5.3	1.1	1.0	3.4	.....	.....	17.0	64.7	....	1.6	.....	....

[1] General cargo not routed so as to allow segregation among definite ports.

Work of Cristobal Shops on Submarine "O-15."

Following the completion of extensive work at the Cristobal shops and dry docks on the submarine *O–15* of the U. S. Navy, and tests of the vessel after she had returned from the shops, the commanding officer of the *O–15* commended the work of the shops by means of the following letter, forwarded through channels:

"1. The Commanding Officer of this vessel takes pleasure in expressing his gratification at the satisfactory manner in which repairs and alterations to this vessel were performed at the Cristobal shops.

"2. The Commanding Officer has had dealings with numerous shops, here, in the United States, and in England and France, both government and privately operated, and in none of these places has he observed workmanship, cooperation, and the pride in good work to such a degree as at the Cristobal shops.

"3. It is gratifying to note that the spirit of cooperation does not stop in the general office, but extends down through the foremen to the various workmen on the jobs themselves. This opportunity is taken to express my appreciation of the cooperation of the foremen and assistants, and the complete harmony with which all worked with the Commanding Officer."

The work on the *O–15* included renewing bridge and providing recess in chariot bridge for coil antenna; renewing forward plates on side of superstructure and superstructure deck; installing A-frame and clearing line for new loop antenna; removing hydroplanes; cleaning and painting underwater hull; grinding-in all valves; making minor structural repairs; installing additional impulse tank in superstructure with cross connections; removing superstructure flood and vent valves and making superstructure free flooding, and plugging holes through hull; taking stern tube and strut bearing clearances and repacking stern tube glands; calibrating all gauges; repairing ballast pump, water-tight doors in bulkhead frame and battery vent ducts; cleaning, painting, and testing all ballast, trimming, and fuel tanks; installing indicators on all ventilating valves, and larger bow planes; and general overhauling.

Pioneer Commercial Vessel Through Canal Reported Sold.

The Luckenbach Steamship Line has announced the sale of the freighters *Pleiades* and *Hattie Luckenbach*, of 3,002 and 3,407 registered net tons, respectively, which have been operating in the United States intercoastal trade between Pacific coast and Gulf ports.

It is reported that the two vessels will be replaced by the steamers *Lena Luckenbach* and *Horace Luckenbach*, of 4,211 and 5,100 registered net tons, respectively. The *Lena Luckenbach* has been operating between the Pacific coast and North Atlantic ports of the United States, and the *Horace Luckenbach*, formerly the *Eastern Trader*, has just been purchased by the Luckenbach Line from the United States Shipping Board, and heretofore has been operated by the Tampa Interocean Steamship Co., in the United States Far East trade.

The assignment of the *Lena Luckenbach* and *Horace Luckenbach* to the Gulf-Pacific coast trade to replace the 2 smaller vessels sold, is due to the heavy freight offerings over this route in both directions. It is announced that the new service will give regular sailings every 16 days, effective from Gulf ports immediately, and from Pacific coast ports with the sailing of the *Jacob Luckenbach* in early December.

The *Pleiades* was the first commercial vessel to pass through the Canal from the Pacific to the Atlantic ocean, making the transit on August 16, 1914, the day after the opening of the Canal, with the

passage of the steamship *Ancon* in official service. Because she was the first vessel through the Canal, the Luckenbach Company continued to operate the *Pleiades* under her original name, though all the other vessels of the line have been renamed for members of the family.

Both the *Pleiades* and the *Hattie Luckenbach* were built at Sparrow's Point, Md., the former in 1900 and the latter in 1901. It is reported that both vessels will operate out of New York to Spain under the Spanish flag.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 20, 1922.

This office is in receipt of letter dated November 15, 1922, from the Acting Manager, United Fruit Company, Almirante, R. P., as below:

"Listed below in their order as approached by a vessel entering the harbor are the 4 new lights with relative position to other lights and characteristics identifying each:

No. 1—CHANNEL LIGHT (RED).

"This light which is just outside harbor is located about 100 feet S. S. W. of where old light was.
"Characteristics—Four-second eclipse, 3-second flash.

No. 2—CAREENING CAY LIGHT (RED).

"This light which is on the starboard side is located about 65 feet N. by W. ½ W. of where old light was.
"Characteristics—Five-second eclipse, 2-second flash.

No. 3—NANCES CAY LIGHT (WHITE).

"This light is on the port side about 70 feet S. S. E. of former location.
"Characteristics—Three and one-half-second eclipse, 1-second flash.

No. 4—PALLAS SHOAL LIGHT (RED).

"This light is on the starboard side, same location as old one.
"Characteristics—Four and one-half-second eclipse; ½-second flash.
"The difference in locations between these new lights and the ones which they replaced are not, in the opinion of the U. S. Submarine Flotilla now in Almirante Bay, great enough to be indicated."

JAY J. MORROW,
Governor.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended November 18:

Steamships *Albaro*, make 3 valve stems, 2 valve rods, 2 piston rings and machine piston grooves; *Manavi*, electric weld teeth of driving gear of anchor windlass, cut 6 manholes for trimming coal bunkers, repair ceiling in No. 2 hold, hatches, ice box, lifeboat, and screening in staterooms, renew door in locker and double eyebolt and spectacle piece of forward davit of No. 1 lifeboat, etc.; *Urubamba*, repair telemotor system; *Lena Luckenbach*, furnish diver to examine propeller and furnish 24 steel balls; *Colon*, repair scuppers in ice box aft, top of tunnels in No. 3 hatch, and lifeboat, as directed; install new pieces in wooden rail on saloon deck as directed.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending November 18, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
U. S. S. Patoka	U. S. Navy	November 12.	November 14.	3,142	.....
Ginyo Maru	Toyo Kisen Kaisha	November 12.	November 13.	552	189
Rakuyo Maru	Toyo Kisen Kaisha	November 13.	November 13.	145	41
Suruga	Barber Line	November 13.	November 15	430	.....
Laura C. Hall	Pacific Metals Corp.	November 16.	November 17.	.....	48
Ecuador	Pacific Mail Steamship Co.	November 16.	November 17.	49	.....
Huasco	South American Line	November 16.	November 16.	.....	41
Baja California	A. D. Lindvig	November 12.	November 18.	.....	2,320
Borglum	C. K. Hansen	November 11.	November 12	.....	505
Manavi	Pacific Steam Navigation Co.	November 14.	November 14.	1	.....
Alvarado	Pacific Steam Navigation Co.	November 16.	November 18.	.....	1,295

Official Circular.

Handling of Cargo at Pier 6, Cristobal.

PANAMA RAILROAD COMPANY,
PANAMA RAILROAD STEAMSHIP LINE,
BALBOA HEIGHTS, C. Z., November 14, 1922.

AGENTS OF ALL STEAMSHIP LINES:

Effective November 16, 1922, the Panama Railroad Company will handle at Pier No. 6, Cristobal, cargo up to four hundred (400) tons for ships desiring to take oil, but no single cargo package weighing more than two and five-tenths (2.5) tons will be handled over this pier. However, the use of this pier for cargo purposes shall always be subordinated to its use for supplying fuel oil to ships.

S. W. HEALD,
Superintendent.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometric comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 181.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Nov. 12	Colon	Panama Railroad Steamship Line.	New York via Haiti.
Nov. 12	Atenas	United Fruit Co	New Orleans via Habana.
Nov. 12	Albaro	Italian Line	Genoa via wayports.
Nov. 14	Zacapa	United Fruit Co.	New York via Habana.
Nov. 14	Heredia	United Fruit Co.	New Orleans via Habana.
Nov. 15	Metapan	United Fruit Co.	New York via Kingston.
Nov. 16	Tivives	United Fruit Co	Colombian ports.
Nov. 16	Atenas	United Fruit Co	Bocas.
Nov. 16	Panama[8]	L. Anderson	Colon.
Nov. 17	Eupatoria	Hamburg-American Line	Hamburg via Cartagena.
Nov. 18	San Blas	United Fruit Co	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Nov. 12	Buenos Aires	Spanish Line	Barcelona via wayports.
Nov. 12	Camden	United Fruit Co	Tampico.
Nov. 12	Atenas	United Fruit Co	Bocas.
Nov. 15	Zacapa	United Fruit Co	New York via wayports.
Nov. 16	Heredia	United Fruit Co	New Orleans via wayports.
Nov. 16	Metapan	United Fruit Co	Colombian ports.
Nov. 16	Tivives	United Fruit Co	New York via Kingston.
Nov. 16	Atenas	United Fruit Co	New Orleans.
Nov. 16	Panama[8]	L. Anderson	Colon.
Nov. 17	Eupatoria	Hamburg-American Line	Port Limon.
Nov. 18	San Blas	United Fruit Co	Boston via Kingston.

PORT OF BALBOA.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Nov. 12	Ginyo Maru	Toyo Kisen Kaisha	Hongkong.
Nov. 12	Baja California	A. O. Lindvig	Guayaquil.
Nov. 13	Rakuyo Maru	Toyo Kisen Kaisha	Valparaiso.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Nov. 12	Ginyo Maru	Toyo Kisen Kaisha	Valparaiso.
Nov. 13	Guardian	All-America Cable Co	High seas.
Nov. 14	Rakuyo Maru	Toyo Kisen Kaisha	Hongkong.
Nov. 18	Baja California	A. O. Lindvig	San Francisco.

[8] Schooner.

* Other than ships passing through the Canal.

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PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., November 29, 1922. No. 16.

Assembly of Stern-wheel River Steamer and Barge at Cristobal Shops.

A task out of the usual run of work at the Cristobal shops of The Panama Canal was the recent erection and launching of the stern-wheel river steamer *San Francisco*, all of the machinery and parts for which had been shipped knocked-down from the United States. The vessel is a shallow-draft stern paddle-wheel steamer, approximately 104 feet long by 24 feet beam, and is now being used by the South American Gold and Platinum Company on the Atrato River, in Colombia.

At the same time the shops force assembled and launched a barge, 60 feet in length by 16 feet wide, to be used in connection with the operation of the steamer. After the completion of the work, the two vessels were towed to the mouth of the Atrato River, in the Gulf of Uraba. The *San Francisco* was towed by the motor schooner *Arabia*, and the barge by the motor schooner *Laura C. Hall.*

In commendation of the service received from the shops, the South American Gold and Platinum Company wrote to the Superintendent of the Mechanical Division, under date of November 7, 1922, as follows:

I wish to take this opportunity of expressing to you my appreciation of the services rendered by your department in connection with the assembly and fitting of the stern paddle-wheel river steamer *San Francisco* and barge.

The work on these two vessels has been different from the work usually done by the force, but they have handled the work skillfully and made excellent time. I feel that we have obtained excellent workmanship, and a satisfactory job.

I wish to express to you, and through you to the various men, my appreciation of their willing, intelligent, and skillful service, and their loyal cooperation in solving the various problems that arose.

I am more than satisfied with the way that our work has been handled, and wish to thank you for your courtesy and consideration.

Very truly yours,

South American Gold and Platinum Co.,

By Clinton Bernard.

Notice to Mariners.—Aids to Navigation.

The Panama Canal, Executive Office,
Balboa Heights, C. Z., November 23, 1922.

The following message was received through the Balboa radio by the Chief Hydrographer:

"Until further notice, Swan Island beacon light will be extinguished on account of lack of power."

Jay J. Morrow,
Governor.

CANAL WORK IN OCTOBER.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of October, 1922:

BALBOA HEIGHTS, C. Z., November 24, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of October, 1922:

CANAL TRAFFIC.

Traffic through the Canal during the month was greater than that during any other month since the opening of the Canal. New high records were set for number of vessels, tonnage, tolls, and cargo carried. The following summary shows the October traffic as compared with the previous record traffic for any month, and as compared with the average month for the fiscal year ending June 30, 1922:

	October traffic.	Former record month.	Average month for fiscal year ending June 30, 1922.
Number of ships	294	[1] 279	228
United States equivalent tonnage	1,049,256	[2] 924,309	766,891
Panama Canal net tonnage	1,300,392	[3] 1,127,871	951,455
Registered gross tonnage	1,652,435	[3] 1,419,754	1,196,757
Registered net tonnage	1,042,966	[2] 917,441	762,601
Tolls	$1,255,508.00	[2] $1,105,536.55	$933,152.70
Tons of cargo	1,445,863	[3] 1,211,100	907,076

[1] January, 1921. [2] March, 1921. [3] July, 1922.

For the fourth successive month of the current fiscal year, the amount of tolls collected from vessels transiting the Canal has exceeded the $1,000,000 mark. The average monthly tolls for the first 4 months of the present fiscal year, beginning July 1, 1922, are $1,106,259.18, which average slightly exceeds the tolls collected during any month since the opening of the Canal prior to the one just closed.

Eastbound traffic—Cargo in transit through the Canal from the Pacific to the Atlantic totaled 880,788 tons, and represents the greatest one-way cargo movement during any month since the opening of the Canal. Heavy shipments of nitrate, wheat, barley, lumber, oil, iron ore, and canned goods formed the bulk of the Pacific-to-Atlantic cargo movement. Total shipments of these 7 commodities made up a little more than three-fourths of all cargo moving eastbound through the Canal.

Cargo originating on the west coast of South America was 147 per cent greater than for October of last year, and made up a third of the total eastbound cargo. The two commodities from South American ports showing the greatest increase in shipments over a year ago were nitrate and iron ore, shipments of the former alone totaling more for the past month than the combined shipments of all commodities from South America a year ago.

Cargo originating on the west coast of North America showed a 40 per cent increase over October a year ago, and made up approximately 62 per cent of the total Pacific-to-Atlantic cargo tonnage. Shipments of commodities showing the greatest increase over a year ago were those of crude petroleum and lumber.

Cargo shipments from the Far East and Australasia were but 53 per cent and 20 per cent, respectively, of the total cargo shipments from these countries in October of last year. Together, they made up only 4.2 per cent of the total eastbound cargo through the Canal during the past month.

Approximately 55 per cent of the total eastbound cargo was routed to the east coast of North America, of which all but 5 per cent went to the Atlantic-Gulf seaboard of the United States. Of the remaining, 3.2 per cent was destined for north African ports and the balance to the British Isles and Continental Europe. For October, a year ago, only about one-third of the eastbound cargo was destined for the east coast of North America, the remaining two-thirds going to the British Isles and Continental Europe.

Westbound traffic—The amount of cargo in transit westbound through the Canal was 77.6 per cent greater than in October a year ago, and was practically the same amount as transited the Canal westbound in September, but has been exceeded several times during the past 2 years.

Of the total Atlantic-to-Pacific cargo in transit through the Canal, 62.5 per cent originated on the Atlantic-Gulf seaboard of the United States as compared with 73.7

per cent for the preceding months, and 64.9 per cent a year ago. Of the remaining, 26.2 per cent originated in the British Isles and Continental Europe, 6 per cent from the east coast of Mexico, and the remaining 3 per cent was divided among the east coast of Canada, east coast of South America, the West Indies, and Cristobal, C. Z.

Of the westbound cargo, almost one-half was made up of shipments of iron and steel, railroad material, machinery, and crude and refined mineral oils. A considerable portion of the remaining was composed of miscellaneous small manufactured articles too numerous to segregate, and classified as "general cargo."

Approximately 45 per cent of the westbound cargo was en route to the west coast of North America, 20 per cent to the west coast of South America, 20 per cent to the Far East, and 15 per cent to Australasia. As compared with October traffic of a year ago, South America shows the greatest increase and the Far East the most serious loss in assimilating westbound cargo tonnage, and distribution a year ago being as follows: West coast of North America, 38 per cent; west coast of South America, 11 per cent; Far East, 36 per cent; and Australasia, 15 per cent.

Twenty-eight vessels transited the Canal westbound in ballast during the month, 13 of which were tankers.

NUMBER OF VESSELS TRANSITING CANAL.

The total number of vessels and craft of all kinds transiting the Canal during the month of October as compared with the preceding month and with the corresponding month of last year, was as follows:

	October, 1922.	September, 1922.	October, 1921.
Commercial vessels	294	240	255
Noncommercial vessels	5	18	20
Launches, etc. (under 10 tons measurement)	20	11	6
Total vessels and craft through Canal	319	269	281

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in October, as follows:

	Northbound.	Southbound.	Total.
Gatun	13	7	20
Pedro Miguel	18	21	39
Miraflores	18	21	39

COMMERCIAL TRAFFIC.[1]

Comparative Traffic Statistics.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of October, 1922, with that of the preceding month and the corresponding month of last year along the lines indicated at the head of the various tables:

TONNAGE, TOLLS, AND CARGO CARRIED.

	October, 1922.	September, 1922.	October, 1921.	Average per month for past year.
United States equivalent net tonnage	1,049,256	843,113	866,196	815,821
Panama Canal net tonnage	1,300,392	1,070,410	1,069,554	1,019,140
Registered gross tonnage	1,652,435	1,333,101	1,335,812	1,281,637
Registered net tonnage	1,042,966	837,935	863,676	812,264
Tolls	$1,255,508.00	$1,020,064.55	$1,047,935.62	$993,587.34
Tons of cargo	1,445,863	1,138,188	985,775	1,046,423

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	October, 1922.	September, 1922.	October, 1921.
United States equivalent net tonnage	3,593	3,513	3,397
Panama Canal net tonnage	4,453	4,460	4,194
Registered gross tonnage	5,658	5,555	5,238
Registered net tonnage	3,572	3,491	3,387
Tolls	$4,270.43	$4,250.27	$4,109.55
Tons of cargo (including vessels in ballast)	4,951	4,742	3,866
Tons of cargo (laden vessels only)	5,497	5,221	4,694

UNITED STATES COASTWISE TONNAGE.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
October	22	113,712	$116,752.05	86,442	19	96,731	$101,710.00	105,951
November	24	136,349	131,558.19	91,067	17	86,958	88,339.80	101,460
December	20	104,152	106,549.80	73,967	23	116,482	117,600.08	105,134
1922.								
January	28	138,928	141,404.35	119,413	20	108,921	111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150
September	34	175,211	164,208.35	162,955	29	144,231	137,377.25	192,300
October	44	218,319	201,582.70	176,911	29	156,722	160,497.85	235,728

UNITED STATES SHIPPING BOARD VESSELS.

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
October	10	55,300	$53,475.00	34,593	14	61,980	$62,318.75	79,129
November	12	74,635	71,525.74	44,975	5	29,949	29,127.50	28,865
December	9	47,604	46,318.75	44,101	6	32,957	32,803.75	28,784
1922.								
January	6	34,546	34,756.25	23,575	7	31,550	30,646.95	28,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532
September	8	43,796	36,661.62	33,559	5	24,116	23,363.75	36,945
October	6	30,872	31,203.35	29,742	6	27,656	26,533.95	39,240

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage:

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
October	262,440	226,431	27,828	20,516	33,960	571,175
November	301,680	192,594	14,997	18,444	11,302	539,017
December	312,225	198,287	21,113	15,601	28,443	575,669
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,223	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
September	369,756	170,003	4,382	17,271	21,004	582,416
October	433,864	196,618	14,170	19,665	48,135	712,452
Average month for past year	347,092	161,187	20,078	18,736	27,328	574,421

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
October	280,483	78,532	100,332	69,057	42,771	571,175
November	216,092	107,721	95,216	78,493	41,495	539,017
December	188,615	115,980	136,940	84,391	49,743	575,669
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
September	257,780	122,215	99,828	76,203	26,390	582,416
October	281,857	194,282	106,467	82,250	47,596	712,452
Average month for past year	203,192	129,849	118,784	78,275	44,320	574,421

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
October	252,645	124,560	37,720	41,436	42,018	498,379
November	189,942	126,381	23,556	6,581	56,934	403,394
December	195,969	135,952	28,194	39,616	41,844	441,575
1922.						
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
September	244,463	143,762	32,903	27,451	39,415	487,994
October	287,606	201,071	20,232	8,022	81,009	597,940
Average month for past year	191,571	132,116	28,921	34,928	58,017	445,553

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
October	259,613	170,189	18,222	30,955	19,400	498,379
November	196,974	164,345	20,446	16,760	4,869	403,394
December	191,277	192,575	25,550	21,739	10,434	441,575
1922.						
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	11,851	472,271
September	165,132	263,987	10,868	21,782	26,225	487,994
October	246,239	278,764	9,346	15,667	47,924	597,940
Average month for past year	170,064	222,284	18,797	19,044	15,364	445,553

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of October, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	44.8	.....	22.0	.....
East coast of United States	25.4	.....	25.0	.....
East coast of Mexico	.....	50.3	.....	79.3
Cristobal, C. Z.	.....	17.7	.....	8.2
West coast of United States	38.7	.....	50.1	.....
West coast of South America	52.2	.....	52.2	.....
Australasia	5.1	.....	.....	77.0
Far East	.....	10.4	.....	30.0

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,255,508. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the revenue would have been increased by $259,361.66. The additional tolls would have been contributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific. to Atlantic.	Total.
British	$46,130.26	$28,334.60	$74,464.86
Chilean	1,435.35	3,212.60	4,647.95
Danish	1,084.85	5,729.75	6,814.60
Dutch	5,462.60	4,609.90	10,072.50
French	1,263.65	1,794.80	3,058.45
German	3,872.55	1,235.95	5,108.50
Italian	.....	1,130.10	1,130.10
Japanese	3,604.55	3,658.90	7,263.45
Norwegian	2,940.15	11,603.45	14,543.60
Peruvian	6,539.60	5,525.10	12,064.70
Swedish	2,006.55	3,470.80	5,477.35
United States	56,123.80	58,591.80	114,715.60
Totals	130,463.91	128,897.75	259,361.66

The additional tolls that would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$34,311.62	$35,042.15	$69,353.77
United States and Canal Zone ports	774.70	528.10	1,302.80
United States and foreign ports	19,543.18	22,462.30	42,005.48
Between foreign ports	1,494.30	559.25	2,053.55
Totals	56,123.80	58,591.80	114,715.60

Of the additional $259,361.66 revenue that would have been collected by using the Panama Canal rules of measurement exclusively, $12,462.96 represents the additional sum that would have been collected on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in October is shown in the following table, segregated by nationality of vessels (vessels in ballast are excluded):

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.10	1.46	1.25
Chilean	.18	.77	.61
Danish	.44	1.64	1.36
Dutch	.44	1.31	.77
French	.32	1.50	1.06
German	1.16	1.22	1.18
Italian	.....	.52	.52
Japanese	1.15	1.57	1.40
Norwegian	.58	1.56	1.33
Peruvian	.30	.92	.64

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Swedish	1.24	1.63	1.52
United States	1.05	1.54	1.29
Average ratio, October, 1922	1.00	1.48	1.25
Average ratio, September, 1922	.95	1.40	1.17
Average ratio, October, 1921	.90	1.29	1.15

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.81	1.50	1.23
United States and South America	.23	1.71	1.00
United States and Europe	.64	1.61	1.30
United States and Far East	1.08	1.50	1.13
Europe and South America	.89	1.39	1.14
Europe and Australasia	.81	1.15	.84
Europe and Canada	.70	1.48	1.17
Cristobal, C. Z., and South America	.15	.44	.28
United States znd Australasia	1.45	.....	1.45

COMMODITY STATISTICS.

The following commodity statistics, compiled from declarations of cargo and manifests submitted by the ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 71 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent of all cargo passing from Pacific to Atlantic ports, the remaining being listed as "general merchandise." A brief comparative summary of the principal items is shown herewith, the figures representing tons of 2,240 pounds:

Commodity.	October, 1922.	September, 1922.	October, 1921.
Atlantic to Pacific.			
Ammonia	2,526	4,975	12,072
Automobiles and accessories	5.545	2,213	1,235
Cement	9,404	7,863	2,681
Coal and coke	35,203	8,371	21,515
Cotton, raw	10,179	4,562	14,725
Creosote	8,523	.....	.....
Glassware	3,619	1,665	1,289
Manufactured goods:			
Iron and steel	107,389	79,036	48,074
Railroad material	18,002	16,056	4,942
Machinery	9,047	7,174	4,772
Textiles	3,030	4,470	1,262
Other manufactured goods	13,842	13,570	3,683
Metals, various	9.288	6,273	8,880
Oils:			
Crude petroleum	25,771	8,049	68,891
Lubricating oil	2,822	11,235	2,965
Kerosene, gasoline, benzine, etc	76,834	54,061	20,986
Vegetable, and other oils	623	3,178	1,173
Paper	7,237	5,227	1,210
Sulphur	7,507	12	.....
Sugar	3,100	268	50
Tobacco	1,438	2,504	2,879
Other and general merchandise	204,146	227,075	151,153
Totals	565,075	467,837	374,437
Pacific to Atlantic.			
Barley	66,288	59,730	67,092
Beans, peas, lentils, etc	4,365	2,735	20,547
Cacao	4,289	2,070	3,844
Canned goods:			
Fish	29,428	15,944	32,761
Fruit	37,899	41,154	25,547
Other, and unclassified	8,333	1,806	2,523
Coffee	2,652	3,631	4,594

Commodity.	October, 1922.	September, 1922.	October, 1921.
Pacific to Atlantic—continued.			
Copra	4,883	5,632	9,196
Cotton, raw	5,759	4,027	12,592
Flour	2,643	3,321	19,000
Fruit, dried	12,847	1,795	3,216
Hemp	3,336	1,341	526
Ivory nuts	2,918	2,587	2,811
Lumber	105,108	88,111	56,606
Metals:			
Copper	22,238	25,158	10,060
Other various	3,279	3,619	1,018
Nitrate	151,126	94,556	54,256
Oils:			
Crude petroleum and naphtha	93,925	65,366	670
Lubricating oil	16,149	.....	7,215
Benzine, kerosene, gasolene, etc	.....	17,860	2,498
Vegetable, and other oils	1,165	8,559	2,472
Ores:			
Iron	51,800	39,000	.....
Other various	5,798	13,446	3,824
Rice	3,440	10,275	4,054
Skins and hides	1,490	3,958	1,707
Sugar	31,707	11,883	20,261
Tea	1,876	3,754	3,950
Wheat	119,535	43,711	128,375
Wool	7,450	7,121	9,081
Other and general merchandise	78,692	88,202	101,042
Totals	880,788	670,352	611,338

LATIN-AMERICAN TRAFFIC.

The amount of tonnage and cargo routed to and from Latin America through the Canal was the greatest since March, 1921. Increased shipments both to and from the west coast of South America were chiefly responsible for the gain in this traffic. The following tabulation shows the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
British	24	77,946	93,467	125,106	75,876	$86,962.94	68,794
Chilean	1	1,797	3,068	3,814	2,288	2,246.25	553
Danish	1	4,223	5,303	5,296	3,311	5,278.75	2,356
Dutch	3	10,612	13,204	16,090	9,866	13,171.65	6,489
French	1	3,566	4,081	5,681	3,600	4,457.50	387
German	3	6,957	10,343	11,621	6,963	8,696.25	12,020
Japanese	2	10,054	11,167	16,095	9,959	12,567.50	13,302
Norwegian	4	9,888	12,255	15,751	9,634	10,549.72	2,386
Peruvian	5	7,904	13,488	20,669	11,378	9,880.00	4,072
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
United States	15	42,432	53,275	68,413	42,363	46,149.72	21,258
Totals, October, 1922	60	177,275	221,961	292,347	178,022	201,623.48	131,617
Totals, September, 1922	41	109,177	140,109	180,347	109,738	126,068.01	66,758
Totals, October, 1921	41	88,017	114,095	148,597	91,389	106,777.62	77,406

PACIFIC TO ATLANTIC.

British	28	84,580	105,861	137,310	84,703	104,032.54	147,947
Chilean	2	4,892	7,773	11,103	6,201	6,115.00	6,014
Danish	2	4,781	5,113	6,383	3,892	5,838.25	10,002
Dutch	2	3,262	6,182	5,410	3,303	4,077.50	7,793
French	1	4,368	4,369	5,351	3,339	5,242.80	6,571
German	2	4,705	5,893	6,685	3,754	5,881.25	7,167
Italian	1	2,718	3,773	4,676	2,636	3,397.50	1,975
Norwegian	3	6,674	9,450	10,648	6,512	8,342.50	19,215
Peruvian	5	12,072	17,053	25,600	14,652	14,955.30	15,701
United States	14	41,701	50,363	66,153	41,642	51,376.80	82,977
Totals, October, 1922	60	169,753	215,830	279,319	170,634	209,259.44	305,362
Totals, September, 1922	51	131,308	169,428	218,320	132,480	161,884.52	231,140
Totals, October, 1921	47	114,406	145,941	189,888	117,021	131,832.89	125,384

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of October, 1922, was published in THE PANAMA CANAL RECORD under date of November 8, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes, during October, 1922, as compared with the preceding month and with the corresponding month of last year:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	October, 1922.	September, 1922.	October. 1921.	October, 1922.	September, 1922.	October, 1921.
United States coastwise ports	44	34	22	29	29	19
United States and Far East	19	19	19	3	5	4
Europe and United States	11	13	27	23	15	29
United States and South America	21	14	10	23	17	12
Europe and South America	16	11	8	18	11	12
Cristobal and South America	8	7	11	7	10	12
Europe and Australasia	7	5	8	1	4	6
United States and Australasia	7	7	4	.....	1	1
Europe and Canada	5	4	3	9	4	5
Mexico and United States	.....	.....	1	1	3	2
Mexico and South America	3	1	1	1	.....	2
United States and Canada	1	.....	.....	4	3	.....
Miscellaneous	17	18	17	16	12	20
Totals	159	126	131	135	114	124
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	218,319	175,211	113,712	156,772	144,231	96,731
United States and Far East	100,000	95,710	93,947	14,776	29,646	19,465
Europe and United States	54,505	60,888	135,184	114,484	75,988	125,113
United States and South America	83,636	48,493	27,034	91,440	69,217	36,182
Europe and South America	68,936	51,429	28,832	72,953	44,709	53,704
Cristobal and South America	14,511	13,667	16,733	12,106	17,291	18,077
Europe and Australasia	42,141	32,694	46,421	3,930	18,906	36,498
United States and Australasia	27,528	40,068	17,558	.....	4,442	4,938
Europe and Canada	31,036	24,021	15,994	48,055	22,272	26,043
Mexico and United States	.....	.....	1,121	4,964	10,868	6,407
Mexico and South America	14,170	4,382	5,311	4,382	.....	9,719
United States and Canada	4,381	.....	.....	15,826	15,721	.....
Miscellaneous	53,289	35,853	69,328	58,302	34,703	65,502
Totals	712,452	582,416	571,175	597,940	487,994	498,379
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	176,911	162,955	86,442	235,728	192,300	105,951
United States and Far East	107,568	118,483	123,689	22,214	43,119	27,918
Europe and United States	34,915	38,003	10,891	184,094	119,288	209,788
United States and South America	19,476	17,786	10,398	156,491	111,293	31,664
Europe and South America	61,376	27,932	13,332	100,131	64,206	67,808
Cristobal and South America	2,134	2,540	2,309	5,328	6,941	11,107
Europe and Australasia	34,314	20,505	35,426	4,514	23,106	33,305
United States and Australasia	40,002	40,650	16,432	.....	3,000	3,300
Europe and Canada	21,848	16,700	11,114	71,151	30,693	39,985
Mexico and United States	.....	.....	.....	4,500	6,050	3,233
Mexico and South America	25,885	7,823	9,500	.....	.....	.....
United States and Canada	5,900	.....	.....	23,522	19,679	.....
Miscellaneous	34,746	14,459	54,904	73,115	50,677	77,279
Totals	565,075	467,836	374,437	880,788	670,352	611,338

TRAFFIC BY NATIONALITY.

A statement of all commercial traffic through the Canal in October, classified according to the nationality of the various vessels, is shown in the following tabulation:

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
From Atlantic to Pacific.							
British	57	207,249	261,277	327,705	202,782	$240,012.12	217,475
Chilean	1	1,797	3,068	3,814	2,288	2,246.25	553
Danish	1	4,223	5,303	5,296	3,311	5,278.75	2,356
Dutch	4	15,159	20,260	23,400	14,361	18,855.40	8,974
French	3	8,938	10,308	12,924	8,234	11,117.95	3,337
German	3	6,957	10,343	11,621	6,963	8,696.25	12,020

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific—Contd.							
Japanese	7	30,068	34,049	45,785	29,900	$37,254.25	39,021
Norwegian	6	15,865	19,798	25,252	15,596	18,020.97	8,096
Peruvian	5	7,904	13,488	20,669	11,378	9,880.00	4,072
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,000
United States	70	264,547	328,229	415,018	265,531	301,996.52	264,171
Totals, October, 1922	159	566,856	712,452	899,040	565,986	657,837.91	565,075
Totals, September, 1922	126	460,366	582,416	725,894	453,209	545,856.98	467,836
Totals, October, 1921	131	459,713	571,175	708,363	458,589	541,994.93	374,437
From Pacific to Atlantic.							
British	38	124,059	151,697	193,173	121,731	152,763.64	214,715
Chilean	2	4,892	7,773	11,103	6,201	6,115.00	6,014
Danish	4	12,293	17,304	20,239	12,663	15,228.25	28,407
Dutch	3	8,122	12,250	13,061	8,099	10,152.50	16,049
French	4	17,824	19,632	23,032	14,264	21,773.20	29,506
German	2	4,705	5,893	6,685	3,754	5,881.25	7,167
Italian	1	2,718	3,773	4,676	2,636	3,397.50	1,975
Japanese	11	46,502	50,448	66,615	45,283	57,266.30	79,460
Norwegian	12	40,259	50,752	61,514	39,263	50,323.75	79,068
Peruvian	5	12,072	17,053	25,600	14,652	14,955.30	15,701
Swedish	2	7,552	10,759	12,119	9,029	9,440.00	17,530
United States	51	201,404	250,606	315,578	199,405	250,373.40	385,196
Totals, October, 1922	135	482,402	597,940	753,395	476,980	597,670.09	880,788
Totals, September, 1922	114	382,747	487,994	607,207	384,726	474,207.57	670,352
Totals, October, 1921	124	406,483	498,379	627,449	405,087	505,940.69	611,338
Total traffic.							
British	95	331,308	412,974	520,878	324,513	392,775.76	432,190
Chilean	3	6,689	10,841	14,917	8,489	8,361.25	6,567
Danish	5	16,516	22,607	25,535	15,974	20,507.00	30,763
Dutch	7	23,281	32,510	36,461	22,460	29,007.90	25,023
French	7	26,762	29,940	35,956	22,498	32,891.15	32,843
German	5	11,662	16,236	18,306	10,717	14,577.50	19,187
Italian	1	2,718	3,773	4,676	2,636	3,397.50	1,975
Japanese	18	76,570	84,497	112,400	75,183	94,520.55	118,481
Norwegian	18	56,124	70,550	86,766	54,859	68,344.72	87,164
Peruvian	10	19,976	30,541	46,269	26,030	24,835.30	19,773
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
Swedish	3	9,805	14,778	15,864	11,887	12,256.25	22,530
United States	121	465,951	578,835	730,596	464,936	552,369.92	649,367
Totals, October, 1922	294	1,049,258	1,310,392	1,652,435	1,042,966	1,255,508.00	1,445,863
Totals, September, 1922	240	843,113	1,070,410	1,332,101	837,935	1,020,064.55	1,138,188
Totals, October, 1921	255	866,196	1,069,554	1,335,812	863,676	1,047,935.62	985,775

A further classification of the commercial traffic through the Canal during October is shown below:

Freight and passenger ships.	Atlantic to Pacific. No. of ships.	Atlantic to Pacific. Panama Canal net tonnage.	Atlantic to Pacific. Tolls.	Pacific to Atlantic. No. of ships.	Pacific to Atlantic. Panama Canal net tonnage.	Pacific to Atlantic. Tolls.
Laden	122	524,624	$506,845.80	124	532,771	$527,902.20
Ballast	15	70,232	50,673.51	.....	.....	.....
Tankers:						
Laden	7	39,970	41,070.00	10	60,787	66,612.85
Ballast	13	77,626	56,237.10	1	4,382	3,155.04
Warships:						
Ballast	2	[1] 6,023	3,011.50	.....	.....	.....
Steamers	127	566,809	530,037.01	116	496,592	497,913.45
Motor ships	5	23,017	21,473.75	7	36,107	29,910.00
Motor schooners	3	1,407	1,660.95	1	72	78.75
Barks	2	3,623	4,347.60	.....	.....	.....
Tankers:						
Steamers	20	117,596	97,307.10	11	65,169	69,767.89
Warships:						
Cruiser	1	[1] 4,879	2,439.50	.....	.....	.....
Destroyer	1	[1] 1,144	572.00	.....	.....	.....

[1] Displacement tonnage.

VESSELS WITHOUT CARGO.

The number of ships in ballast transiting the Canal, exclusive of warships and other noncargo-carrying vessels is shown in the following tabulation:

Freight and passenger ships.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
British	8	44,845	$32,358.99	.....	.....	.....
Norwegian	2	5,826	4,194.72	.....	.....	.....
Spanish	1	2,310	1,663.20	.....	.....	.....
United States	4	17,251	12,456.60	.....	.....	.....
Tankers:						
British	4	18,614	13,402.08	1	4,382	$3,155.04
United States	9	59,012	42,835.02	.....	.....	.....
Totals	28	147,858	106,910.61	1	4,382	3,155.04

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during October, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated.

The statement also shows the number of and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls, are not included in the commercial traffic:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.	Tolls.	No. of ships.	Tonnage.	Tolls.
U. S. naval vessels:						
Transport	1	[1] 5,212	$4,885.00	.....	.....	.....
Supply ship	1	[2] 4,406	5,507.50	1	[2] 4,335	$5,418.75
Tugs	2	[3] 1,500	750.00	3	[3] 2,250	1,125.00
Submarines	2	[3] 1,690	845.00	2	[3] 1,690	845.00
Destroyer	1	[3] 1,000	500.00	.....	.....	.....
Cruiser	1	[3] 3,200	1,600.00	1	[3] 4,400	2,200.00
Subchaser	1	[3] 61	30.50	.....	.....	.....
U. S. Army vessels:						
Transport	1	[2] 5,389	6,736.25	.....	.....	.....
Launch	1	[1] 10	7.20	.....	.....	.....
U. S. Coast and Geodetic Survey ships	2	[2] 336	252.00	.....	.....	.....
Private launches, etc.	5	[1] 12	12.15	.....	.....	.....
Totals	18		21,125.60	7		9,588.75

[1] Panama Canal net tonnage. [2] Registered net tonnage. [3] Displacement tonnage.

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of The Panama Canal during the month of October, 1922, are shown in the following tabulation:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	46,188	9,278	55,466
Local cargo shipped	tons	4,586	4,679	9,265
Transit cargo arriving	tons	1,449,837	1,468,578	2,918,415
Transit cargo clearing	tons	1,457,254	1,476,053	2,933,307
Cargo received for transshipment	tons	16,444	845	17,289
Cargo transshipped	tons	17,701	140	17,841
Vessels supplied with bunker coal:				
Army vessels		1	1	2
Commercial, other than Panama Railroad vessels		58	4	62
Panama Railroad vessels		1	.....	1
Total vessels supplied with coal		60	5	65
Coal supplied to above vessels:				
U. S. Army vessels	tons	1	62	63
Commercial, other than Panama Railroad	tons	13,099	1,517	14,616
Panama Railroad vessels	tons	422	.....	422
Total coal supplied to vessels	tons	13,522	1,579	15,101

	Cristobal.	Balboa.	Total.
Coal issues, miscellaneous:			
Panama Canal departments ... tons..	360	60	420
Panama Railroad Company, excepting vessels ... tons..	19	.....	19
U. S. Army, excepting vessels ... tons..	475	.....	475
Individuals and companies ... tons..	295	.....	295
Total coal issues from Panama Canal deposits:			
October, 1922 ... tons..	14,671	1,639	16,310
September, 1922 ... tons..	12,042	751	12,793
October, 1921 ... tons..	13,759	1,745	15,504
Coal on hand, November 1, 1922 ... tons..	119,797	889	120,686
Coal on hand, October 1, 1922 ... tons..	115,352	2,528	117,880
Coal received during October, 1922 ... tons..	19,116	.....	19,116
Fuel oil issues from Panama Canal tanks:			
Panama Canal departments ... bbls..	6,681	15,358	22,039
Panama Railroad Company ... bbls..	239	.....	239
U. S. Army and Navy ... bbls..	102	101	203
Individuals and companies ... bbls..	.....	188	188
Total issues and sales ... bbls..	7,022	15,647	22,669
Fuel oil on hand, November 1, 1922 ... bbls..	58,103	34,210	92,313
Fuel oil on hand, October 1, 1922 ... bbls..	65,125	49,857	114,982
Diesel oil issued during October ... bbls..	.....	10	10
Diesel oil sold during month ... bbls..	17	.....	17
Diesel oil on hand, November 1, 1922 ... bbls..	45,021	877	45,898
Oil pumped for individuals and companies ... bbls..	483,000	120,167	603,167
Miscellaneous transfers ... bbls..	3,753	11,251	15,004
Total oil handled ... bbls..	493,792	147,075	640,867
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	35	10	45
Measured for Panama Canal net tonnage	6	3	9
Remeasured for Panama Canal net tonnage	13	8	21
Panama Canal net tonnage corrected	14	4	18
U. S. equivalent tonnage corrected	13	9	22
Services of harbor equipment:			
Tugs, total operating hours	395	141	536
Launches, total operating hours	1,317	1,281	2,598
Scows, total operating hours	.....	60	60
Revenues from tug service, pilotage, etc.:			
Tug service	$12,165.00	$4,242.50	$16,407.50
Launch service	1,684.00	1,635.00	3,319.00
Pilotage	13,211.00	4,112.00	17,323.00
Seamen	5,016.00	4,360.00	9,376.00
Wharfage	393.30	2,734.71	3,128.01
Ships measured	300.00	150.00	450.00
Miscellaneous cash collections	1,254.75	456.00	1,710.75
Vessels repaired at Panama Canal shops:			
Commercial	27	8	35
U. S. Army and Navy	1	10	11
Panama Canal equipment	8	20	28
Vessels dry-docked:			
Commercial	2	.....	2
U. S. Army and Navy	1	1	2
Panama Canal equipment	3	5	8
Clearances issued	190	172	362
Bills of health issued	182	172	354

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during October, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	351	1,954,882	1,242,656	308	1,702,500	1,079,856
Vessels entering the port but not transiting the Canal	61	302,539	190,718	9	32,965	19,363
Vessels transiting Canal and handling passengers or cargo	49	244,810	148,964	31	124,598	74,859

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships clearing.						
All vessels, including those transiting Canal	354	1,970,971	1,247,579	309	1,704,736	1,082,388
Vessels entering the port but not transiting the Canal	55	283,918	174,234	10	34,613	20,174
Vessels transiting Canal and handling passengers or cargo	56	276,475	167,832	31	124,598	74,859

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of October, 1922:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,321	578	1,899	5	2	7
From Pacific ports	125	125	250	110	75	185
Total disembarking	1,446	703	2,149	115	77	192
Embarking:						
For Atlantic ports	713	853	1,566	1	.....	1
For Pacific ports	259	82	341	60	36	96
Total embarking	972	935	1,907	61	36	97
Remaining on board vessels:						
From Atlantic to Pacific ports	708	2,125	2,833	774	2,161	2,935
From Pacific to Atlantic ports	374	369	743	492	403	895
From Atlantic to Atlantic ports	392	100	492	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	2	176	178
Total remaining on board	1,474	2,594	4,068	1,268	2,740	4,008
Total passengers arriving	2,920	3,297	6,217	1,383	2,817	4,200
Total passengers departing	2,446	3,529	5,975	1,329	2,776	4,105

COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of October, 1922:

	Ice.	Cold storage.	Groceries.	Laundry.	Miscellaneous.	Total.
Sales at Cristobal to:						
U. S. Government vessels	$94.05	$1,256.41	$104.02	.....	$7.41	$1,461.89
Panama Railroad vessels	29.70	3,267.40	32.59	.....	776.55	4,106.24
Other commercial vessels	972.08	11,169.37	4,239.35	.....	636.21	17,017.01
Total sales, October, 1922	1,095.83	15,693.18	4,375.96	.....	1,420.17	22,585.14
Total sales, September, 1922	1,215.96	26,011.97	4,924.06	.....	3,002.97	35,154.96
Total sales, October, 1921	1,419.33	23,473.28	5,105.86	$120.82	1,518.08	31,637.37
Sales at Balboa to:						
U. S. Government vessels	170.80	11,888.03	5,034.94	.....	250.08	17,343.85
Other commercial vessels	363.26	3,966.06	879.99	379.80	854.96	6,444.07
Total sales, October, 1922	534.06	15,854.09	5,914.93	379.80	1,105.04	23,787.92
Total sales, September, 1922	382.16	6,865.29	1,110.46	663.22	884.80	9,905.93
Total sales, October, 1921	1,068.58	11,028.71	3,265.59	2,918.81	301.09	18,583.78

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of October, 1922, as compared with the preceding month and with the corresponding month of last year:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Oct., 1922.	Sept., 1922.	Oct., 1921.
Gatun	133	151	284	6	7	13	297	251	263
Pedro Miguel	134	158	292	11	16	27	319	270	286
Miraflores	134	158	292	10	15	25	317	269	289
Number of vessels put through locks.									
Gatun	140	164	304	21	19	40	344	295	307
Pedro Miguel	135	161	296	26	35	61	357	332	342
Miraflores	135	161	296	26	35	61	357	334	344

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels	20	22	22
Panama Canal equipment	20	39	39

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,192,140,000	1,154,170,000	967,390,000
Leakage	25,000,000	19,000,000	20,000,000
Total consumption, October, 1922	1,217,140,000	1,173,170,000	987,390,000
Total consumption, September, 1922	962,410,000	989,930,000	799,100,000
Total consumption, October, 1921	1,042,730,000	989,610,000	967,480,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation and meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of October, 1922, are shown in comparative form:

Rainfall.	October, 1922.	October, 1921.	October—Years of record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Total rainfall for month:					
Pacific Section	10.70	12.98	14.70	6.28	11.25
Central Section	13.58	13.10	20.85	9.37	14 60
Atlantic Section	13.96	7.92	25.70	7.92	15.28
Maximum recorded on any one day	5.38	3.66	[1] 10.86	.....	.....
Gatun Lake watershed	14.42	12.63	22.86	8.72	15.73
Chagres River watershed above Alhajuela	13.53	14.73	26.07	8.26	15.08
Maximum recorded for month at any one point	17.81	21.74	30.32	.....	.....
Minimum recorded for month at any one point	7.56	4.84	.....	1.62	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	3,600	3,252	5,135	2,031	3,459
Maximum momentary discharge for the month	25,790	18,600	[2] 170,000	.....	.....
Gatun Lake watershed total yield	11,667	10,517	16,291	7,868	11,964
Gatun Lake watershed net yield	11,201	10,017	15,744	7,798	11,460
Draft on Gatun Lake for lockages and power	2,166	2,262	[3] 2,305	[3] 1,191	[3] 1,945

[1] This represents the maximum 24-hour rainfall recorded on the Canal Zone and immediate vicinity since American occupation. Recorded at Porto Bello on December 28–29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including October, 1914.

NOTE.—Extreme outlying stations in the Republic of Panama are not included in this report.

SEISMOLOGY.

Seismic tremors were recorded on the 11th, 16th, 19th, 24th, and 28th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	October, 1922.	September, 1922.	October, 1921.
Gross output, K. W. H.:			
Gatun hydroelectric station	4,359,800	4,179,600	5,304,100
Miraflores steam plant	70	.....	1,190
Power distributed to consumers.....KWH	3,739,916	3,560,193	4,448,013
Loss of power in plant auxiliaries, transmission and transformation .....KWH	619,954	619,407	857,277
Per cent of loss of power to gross output	14.21	14.81	16.15
Water consumption.....cubic feet	3,455,426,514	3,373,754,811	4,062,727,820
Oil consumption.....barrels	1,381	1,658	1,953

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 36 vessels at Cristobal and 38 vessels at Balboa. Of these, 6 were placed in dry dock at Cristobal, and 6 at Balboa. The more important repair work performed included the following: The bow of the tug *Gorgona*, damaged by collision, was repaired; cracks were welded up in her propeller blades; new fenders installed for a portion of her length; and general running repairs made to her main engines and auxiliary machinery.

The crane boat *La Valley* was docked, new propeller blades installed and shell repairs made, the deck house was removed to be replaced by a new one and work of replacing the wooden decks with steel ones and conversion to oil burning began.

The U. S. Army mine planter *L–55* was removed from the rocks on which she had been driven ashore and sunk, towed to the Balboa plant, and placed on the dock for survey.

The tug *Porto Bello* was drydocked, cleaned, and painted; boilers, bell pulls, sanitary pump, piping, etc., were repaired; steering engine crosshead brasses, exhaust valves from fire pumps, and valve motion of main circulating pump were overhauled; valve stem on manifold renewed and new throttle valve fitted.

The output of the foundry in patterns and castings for October, as compared with the preceding month, was as follows:

	September, 1922.			October, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	5	494	33,824	6	302	20,056
Steel	3	59	4,113	6	129	13,965
Nonferrous	7	694	3,643	8	375	4,477

The following is a statement of all job and blanket orders issued and completed during the month:

	Uncompleted October 1.	Authorized in October.	Completed in October.	Uncompleted October 31.
Job orders	417	607	574	450
Blanket orders	350	.....	3	347

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	October, 1922.	September, 1922.	October, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	655,199,000	629,260,500	818,193,700
Filtration plants	374,462,000	360,180,000	515,581,000
Water consumed by Panama City	85,529,000	88,131,000	83,808,000
Water consumed by Colon	59,548,750	56,265,500	66,037,000
Sales of water to vessels	7,983,967	9,181,835	12,627,357

DREDGING.

East and West Culebra slides have both shown a slight general movement during the month, while Cucaracha and Barge Repair slides have been quiescent. There was no interference with Canal traffic from slides during the month.

The total excavation for October, including earth and rock, was 402,600 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Stations.	Equipment.
	Earth.	Rock.			
				Gaillard Cut.	
41,850	5,950	35,900	Maintenance	La Pita project improvement	*Gamboa.*
23,750	9,800	13,950	Maintenance	Buena Vista slide	*Gamboa.*
8,950	3,450	5,500	Maintenance	East Haut Obispo	*Gamboa.*
5,100	.....	5,100	Maintenance	West Culebra slide	*Cascadas.*
12,150	8,400	3,750	Maintenance	East Culebra slide	*Cascadas.*
				Pacific Entrance.	
34,800	20,400	14,400	Maintenance	East and west sides of Canal	*Cascadas.*
276,000	276,000	.....	Maintenance	East and west sides of Canal	*Cascadas.*
402,600	324,000	78,600			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped in Gatun Lake, north of Gamboa	91,800
Dumped at sea, Pacific entrance	34,800
Fills, east and west sides of Canal, Pacific entrance	276,000
Total	402,600

SCHOOLS.

All Canal Zone schools opened on Thursday, October 5. The average daily attendance for white schools was slightly under the average for the past several years, but the average attendance in the colored schools exceeded that of any previous year. For the first time in the history of the Canal Zone schools the number of pupils enrolled in the colored schools exceeded the enrollment in the white schools.

The following is a comparison of the average daily attendance for the month of October in both white and colored schools, from 1918 to 1922, inclusive:

	1918.	1919.	1920.	1921.	1922.
White schools	1,461.1	1,565.8	1,639.9	1,556.3	1,415.6
Colored schools	765.5	870.0	1,042.8	1,277.8	1,651.7
Average daily attendance	2,226.6	2,435.8	2,682.7	2,834.1	3,067.3

The gross and net enrollment, number of teachers employed, cases of absence and tardiness for the past month, are shown in the following summary:

	White.	Colored.	Total.
Gross enrollment	1,509	2,093	3,602
Net enrollment	1,502	1,739	3,241
Pupils neither absent nor tardy	1,096	1,254	2,350
Number of cases of tardiness	168	26	194
Number of teachers	75	36	111

VITAL STATISTICS.

A total of 169 deaths occurred during the month of October, 1922, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 16.51 per thousand. The leading causes of death were pulmonary tuberculosis 22, diarrhea and enteritis under 2 years 18, pneumonia 15, chronic nephritis 11, and organic disease of the heart 11.

Of the total deaths, 71, or 42 per cent, occurred among children under 5 years of age. There were 10 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 304 live births reported during the month, and 10 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 30.69 per thousand popu-

lation. Deaths among children under 1 year of age numbered 45, giving an infant mortality rate, based on the number of births reported for October, of 148.02 per thousand live births.

Five cases of malaria were reported from Panama, 4 from Colon, 108 from the Canal Zone, and 19 originating outside our sanitary jurisdiction. Of these cases, 9 were employees, 84 soldiers or sailors, and 43 were not in the service of the United States. There were 3 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of October 31, 1922.			Comparative totals.		
	Men.	Women.	Children.	October, 1922.	September, 1922.	October, 1921.
Americans	2,238	1,734	1,799	5,771	5,658	7,020
Europeans	87	40	88	215	216	261
West Indians	3,976	2,684	5,879	12,539	12,630	12,865
Totals, October, 1922	6,201	4,458	7,766	18,525	.....	.....
Totals, September, 1922	6,362	4,412	7,730	.....	18,504	.....
Totals, October, 1921	7,748	4,627	7,771	.....	.....	20,14

WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of October 18, 1922, with a comparison of the working force for the preceding month and that of October, 1921:

	As of October 18, 1922.			Total employees.	
	Gold.	Silver.	Total.	September, 1922.	October, 1921.
Operation and Maintenance:					
Office	26	34	60	62	62
Electrical	141	135	276	281	316
Municipal Engineering	73	515	588	595	676
Lock Operation	156	532	688	699	718
Dredging	134	779	913	909	876
Mechanical	323	572	895	904	1,376
Marine	155	408	563	528	553
Fortifications	31	81	112	157	313
Totals	1,039	3,056	4,095	4,135	4,890
Supply Department:					
Quartermaster	138	912	1,050	1,032	1,342
Subsistence	6	68	74	72	262
Commissary	158	765	923	922	1,195
Cattle Industry—Plantations	7	135	142	134	181
Hotel Washington	8	76	84	91	89
Transportation	33	140	173	183	.....
Totals	350	2,096	2,446	2,434	3,069
Accounting Department	183	10	193	195	204
Health Department	217	695	912	919	980
Executive Department	476	245	721	671	787
Totals	876	950	1,826	1,785	1,971
Panama Railroad Company:					
Superintendent	45	215	260	253	271
Transportation	63	88	151	165	188
Receiving and Forwarding Agency	63	561	624	735	913
Coaling stations	81	605	686	813	526
Totals	252	1,469	1,721	1,966	1,898
Grand totals, October, 1922	2,517	7,571	10,088	.....	.....
Grand totals, September, 1922	2,523	7,797	.....	10,320	.....
Grand totals, October, 1921	3,061	8,767	.....	.....	11,828

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of October, cash sales from stock, etc., are shown below in comparative form:

	October, 1922.	September, 1922.	October, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and Maintenance	$89,645.09	$113,883.21	$98,337.89
Miscellaneous departments	3,843.15	3,169.32	10,602.48
Totals	93,488.24	117,052.53	108,940.37
Cash sales on the Isthmus:			
Stock	22,732.47	28,180.42	21,942.32
Fuel oil	377.21	420.21	669.17
Scrap	691.28	834.42	1,275.21
Obsolete and second-hand material	8,819.00	54,360.27	4,439.78
Totals	32,619.96	83,795.32	28,326.48

Respectfully,

JAY J. MORROW,
Governor.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending November 25, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Losada	Pacific Steam Navigation Co		November 12		185
Essequibo	Pacific Steam Navigation Co		November 12		105
Buenos Aires	Spanish Line		November 12		259
Albaro	Italian Line	November 12		127	
Atenas	United Fruit Co	November 12	November 13	(1)	225
Colon	Panama Railroad Steamship Line	November 12		2,669	
Ebro	Pacific Steam Navigation Co	November 13	November 13	8	3
Zacapa	United Fruit Co	November 14	November 15	198	82
Heredia	United Fruit Co	November 14	November 16	1,485	(2)
Manavi	Pacific Steam Navigation Co	November 14		806	
Laura C. Hall	Pacific Metals Corp	November 14	November 16	(3)	103
Alvarado	Pacific Steam Navigation Co	November 14	November 16	186	(4)
Borgland	Norway-Pacific Line	November 15	November 16	(3)	15
Metapan	United Fruit Co	November 15	November 16	38	725
Garfield	Grace Line	November 15	November 16	200	(5)
Suruga	Barber Line	November 15	November 16	235	(4)
Tivives	United Fruit Co	November 16	November 16	½	68
Atenas	United Fruit Co	November 16	November 16	6	87
Huasco	Chilean Line		November 16		1,130
Urubamba	Peruvian Line	November 16		2,824	
Eupatoria	Hamburg-American Line	November 17	November 17	67	8
Ecuador	Pacific Mail Steamship Co	November 17	November 18	147	188
Venezuela	Pacific Mail Steamship Co	November 17	November 18	160	50
St. Joseph	French Line	November 18	November 18	64	134
Orita	Pacific Steam Navigation Co	November 18	November 18	3	89
San Blas	United Fruit Co	November 18	November 18	3	(4)
Mineola	Grace Line	November 19	November 19	(3)	102½
Santa Marta	United Fruit Co	November 19	November 20	(3)	220
Salvador	Pacific Steam Navigation Co	November 20		365	
Colon	Panama Railroad Steamship Line		November 20		3,004
Alkmaar	Royal Netherlands W. I. Mail	November 20	November 21	1,050	(4)
Manavi	Pacific Steam Navigation Co		November 22		650
Eemdijk	Holland-American Line	November 21	November 22	53	78
Sixaola	United Fruit Co	November 21	November 22	197	285
Chanceller	Harrison Line	November 21	November 23	592	(4)
San Gil	United Fruit Co	November 21	November 23	21	16
Parismina	United Fruit Co	November 22	November 23	1,632	73
Puerto Rico	French Line	November 22	November 23	50	564
Crijnssen	Royal Netherlands W. I. Mail	November 22	November 22	75	9
Metapan	United Fruit Co	November 23	November 23	5	85
Santa Marta	United Fruit Co	November 23	November 23	½	87
Urubamba	Peruvian Line		November 23		456
General W. C. Gorgas	Panama Railroad Steamship Line	November 24		1,746	
Turrialba	United Fruit Co	November 24	November 25	15	120
Annam	Danish East Asiatic Co	November 24	November 25	591	(4)
Huallago	Peruvian Line	November 24		1,381	
Magellan	Pacific Steam Navigation Co	November 25		308	
Camito	Elders & Fyffes, Ltd	November 25	November 25	7	(4)
Crijnssen	Royal Netherlands W. I. Mail Co	November 25	November 25	5	253

[1] 420 pounds. [2] 2 cases. [3] No cargo discharged. [4] No cargo laded. [5] 2 packages.

Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 28, 1922.

The master of the steamship *Cartago* radios that at 11 p. m., November 27, the Old Providence Island light was not visible at 6 miles distance; latitude 13° 19′ North, longitude 81° 23′ West.

JAY J. MORROW,
Governor.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective November 25, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.11
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy,i n drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, ; as, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.20
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Completeness of Cargo Declarations.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., November 21, 1922.

MEMORANDUM FOR STEAMSHIP AGENTS:

The Panama Canal is endeavoring to keep accurate and detailed statistics as to the kind of commodities carried by vessels transiting the Canal or plying between Canal Zone terminals and ports of Central and South America, and, as far as possible, the origin and destination of such commodities by ports, countries, or geographical areas. It is believed that such statistics are of considerable value to the commercial world.

During the past several months the cargo declarations received at the offices of the Port Captains from masters of vessels transiting the Canal, and from agents of those touching at the terminals, have contained very little information from which the desired statistics could be obtained. During the past month only 5 per cent of the cargo laden at Cristobal has been designated other than as "general merchandise" and, while it is realized that such cargo consists to a considerable extent of small shipments which frequently can be classed only as "general", it is believed that if the effort were made, in many instances more detailed information could be furnished.

The completeness, and consequent value, of the statistics compiled is dependent upon the information contained in these cargo declarations, and it is requested that your principals be advised of the purpose for which it is desired, in order that masters of transiting vessels may be prepared to furnish as complete a statement as possible of the amount and classification of their cargo and the tonnage scheduled for discharge at various ports of call. Your further cooperation in obtaining this information from vessels for which you act as agent, calling at Canal Zone terminals, will also be appreciated.

JAY J. MORROW,
Governor.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 25, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Cuba	11	19.00	19	6.08	19	13.32	19	17.40	American	Pacific Mail Steamship Co	307.8	42.3	18.0	Cristobal	San Francisco.	General	1,200	3,429	2,206
Arcadia	18	18.07	19	7.12	19	14.40	19	19.45	Panaman	Pacific Freighters Co	399.0	49.2	16.6	Curacao	Taltal	Ballast		5,646	3,723
Lena Luckenbach	18	15.12	19	8.00	19	15.49	19	16.55	American	Luckenbach Line	425.0	53.8	29.5	Mobile	Los Angeles	General	8,800	7,217	5,295
William Rockefeller	18	20.40	19	8.48	19	16.43	19	18.00	American	Standard Oil Co	554.0	75.3	22.9	New York	Los Angeles	Ballast		14,785	10,313
Commercial Trader	18	20.51	19	9.25	19	17.30	19	18.32	American	Honolulu Steamship Co	399.0	51.0	25.10	Baltimore	Seattle	Coal, mdse	4,357	6,190	4,455
Darien [1]	19	9.00	19	9.15	19	19.26			Panaman	Henry Obarrio & Co	90.0	26.0	8.0	Cristobal	Balboa	Ballast		169	50
Port Darwin	19	5.55	19	10.45	19	18.19	19	19.20	British	Commonwealth & Dom. Line	480.4	60.0	26.8	Glasgow	Auckland	General	6,500	10,433	7,884
Bessemer City	19	9.35	19	12.25	19	19.16	19	20.30	American	U. S. Steel Products Co	442.0	56.0	25.2	Baltimore	Seattle	Steel	7,880	7,611	5,450
Mincola	19	3.15	19	12.43	19	20.08	19	23.52	American	Grace Line	298.6	40.0	15.6	New York	Salaverry	General	1,240	2,835	1,805
Rotarian	19	17.07	20	6.14	20	13.48	20	15.00	American	Wessel, Duval & Co. (S. B.)	380.3	52.1	18.0	New York	Peru	General	1,923	5,660	4,059
Tiger	19	20.30	20	7.30	20	14.46	20	15.55	American	Standard Transportation Co	410.0	56.0	20.0	Boston	Los Angeles	General	3,000	8,243	6,312
Maimoa	20	5.17	20	8.54	20	15.56	20	17.16	British	Shaw, Savill & Albion Co	477.9	63.0	26.6	London	Auckland	General	5,080	11,053	7,895
South American	19	23.08	20	11.55	20	18.06	20	19.35	British	South American Steamship Co	251.0	43.6	11.2	New York	Mollendo	General	446	2,444	1,593
Marore	20	15.57	21	6.30	21	14.20	21	15.25	American	Ore Steamship Co	550.3	72.2	25.0	New York	Cruz Grande	Ballast		15,551	4,297
Elder Branch	20	16.04	21	7.20	21	15.03	21	16.07	British	F. and W. Ritson	394.6	49.8	22.3	Liverpool	Valparaiso	General	4,240	4,951	3,592
John D. Archbold	20	18.55	21	8.05	21	15.37	21	17.20	American	Standard Oil Co	554.9	75.3	24.0	New York	Los Angeles	Ballast		14,785	10,313
Alkmaar	20	5.47	21	8.48	21	16.47	21	17.48	Dutch	Royal Netherlands W. I. Mail	447.0	62.7	20.4	Amsterdam	Valparaiso	General	3,894	9,505	6,644
Northern Star	20	18.02	21	10.42	21	17.34	21	18.55	American	American Star Line, Inc	386.3	52.0	23.6	Philadelphia	Los Angeles	General	4,000	5,682	4,086
Osiris [2]	21	6.05	21	10.25	21	18.33	21	19.35	German	Kosmos Line	376.0	51.6	23.0	Hamburg	Corral	General	4,420	5,788	4,023
Chattanooga City	21	7.38	21	11.10	21	19.12	21	20.30	American	U. S. Steel Products Co	424.2	56.2	25.6	New York	Seattle	General	7,900	7,611	5,450
G. Harrison Smith	21	9.55	21	11.45	21	20.27	21	21.45	American	International Petroleum Co	550.6	72.0	24.0	New York	Cruz Grande	Ballast		15,476	11,102
City of Newcastle	21	11.33	21	12.48	21	21.15	21	22.25	British	Ellerman Lines, Ltd	456.5	56.4	27.6	New York	Sydney	General	6,996	8,319	6,288
O-13 [3]	10-23	14.23	21	13.05	21	20.35			American	U. S. Navy	175.0	15.9		Cristobal	Balboa				
Eemdijk	21	11.10	22	6.12	21	13.47	22	14.45	Dutch	Holland-American Line	469.0	58.3	20.0	Hamburg	Seattle	General	3,100	8,514	6,066
Albert G. Forse [4]	22	6.45	22	6.45	22	17.28	23	16.09	Panaman	Henry Obarrio & Co	86.0	20.0	9.0	Cristobal	Balboa	Ballast		125	31
Pearl [4]	22		22		22	8.12			Panaman	W. Cohen	26.0	7.6	4.0	Colon	Gatun			3	3
Chancellor	21	18.10	23	6.23	23	13.46	24	16.28	British	Harrison Line	398.0	52.0	15.0	Liverpool	San Francisco	General		5,377	3,800
Santa Teresa	22	12.25	23	7.16	23	14.53	23	16.00	American	Grace Line	360.2	51.6	23.0	New York	Talcahuano	General	2,313	5,726	4,086
Gudrun Maersk	23	4.52	23	7.30	23	15.06	23	16.08	Danish	A. P. Moller	362.2	51.4	16.0	Norfolk	Iquique	Ballast		4,961	3,477

[1] Tug. [2] Motor ship. [3] Submarine. [4] Launch.

Robert Luckenbach	22	23.58	23	8.10	23	15.58	23	17.20	American	Luckenbach Line	445.0	58.0	24.6	New York	Seattle	General	6,825	8,617	6,297
Saint Patrick	23	6.32	23	8.57	23	16.46	23	18.45	British	British Foreign Steamship Co	381.0	49.0	16.0	Newcastle	Callao	Ballast		5,457	4,174
Manavi	14	18.50	23	9.19	23	17.24	23	22.54	British	Pacific Steam Navigation Co	216.0	35.1	13.8	Cristobal	Guayaquil	General	646	1,357	884
Urubamba	26	23.10	23	10.45	23	18.19	23	19.58	Peruvian	Peruvian Line	381.2	46.1	18.0	Cristobal	Guayaquil	General	456	4,803	2,951
Santa Rosa	24	10.55	24	11.10	24	17.19	24	22.59	American	Grace Line	404.6	53.0	16.6	Charleston	Chile	Ballast		6,754	4,780
Biyo Maru	24	15.13	25	6.25	25	14.14	26	8.35	Japanese	Toyo Kisen Kaisha	400.0	53.0	18.0	New Orleans	Yokohama	General	3,312	5,969	4,414
William Penn	24	16.50	25	7.34	25	15.13	25	20.10	American	Barber Line (S. B.)	439.6	60.0	23.0	New York	Shanghai	Case oil, general	7,193	9,019	6,226
Borneo Maru	24	19.22	25	8.55	25	16.09	25	20.10	Japanese	Osaka Shosen Kaisha	385.0	51.0	26.6	New Orleans	Kobe	General	6,214	5,919	4,387
Annam[2]	24	11.55	25	9.55	25	16.47	25	17.40	Danish	East Asiatic Co	410.0	55.2	20.11	Copenhagen	San Francisco	General	5,179	7,067	5,286
Arizonan	25	9.10	25	9.15	25	17.33	25	18.22	American	American-Hawaiian Line	470.1	57.2	25.9	Liverpool	Los Angeles	General	7,100	9,158	6,970

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Blythmoor	18	15.00	19	6.55	19	15.16	19	16.12	British	Runciman & Co	420.0	54.0	28.6	Mejillones	Pensacola	Nitrate	10,172	6,963	5,008
Benjamin Brewster	19	2.00	19	7.53	19	16.00	19	18.20	American	International Petroleum Co	411.5	53.2	24.0	Talara	Habana	Oil	7,538	6,177	4,244
Patuxent			19	11.14	19	16.23			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
Salvador	20	8.40	20	7.48	20	14.30	26	12.16	British	Pacific Steam Navigation Co	225.0	35.4	13.0	San Jose	Cristobal	General	365	1,270	735
El Montecillo	20	3.00	20	8.35	20	16.35	20	18.00	Spanish	Banco de Santander, Bilbao	330.0	48.0	22.1	Caleta Buena	Bilbao	Nitrate	4,859	3,464	2,310
Geisha	20	9.30	20	10.22	20	18.05	20	18.05	Norwegian	Winge & Co	375.0	51.4	24.2	Iquique	Baltimore	Nitrate	6,450	5,681	3,925
Dinteldijk	20	14.35	21	6.55	21	15.06	21	16.50	Dutch	Holland-American Line	406.6	42.0	29.0	Vancouver	Rotterdam	General	9,061	10,786	7,551
Tilthorn	20	22.00	21	7.41	21	16.41	21	16.41	Norwegian	Kerr Line	420.2	53.9	24.0	Saigon	New York	General	7,369	6,591	4,730
Haimon	21	9.00	21	9.50	21	16.51	21	18.15	German	Roland Line	360.0	45.0	14.0	San Jose	Galveston	General	100	4,350	3,117
Thebon	21	9.30	21	10.06	21	18.33	21	19.40	German	Kosmos Line	339.0	48.0	13.2	Mazatlan	Galveston	General	219	4,094	2,924
Molesey	21	10.30	21	12.07	21	20.13	21	21.41	British	Watts, Watts & Co	307.8	49.5	22.0	Coronel	Malaga	Nitrate	5,850	4,117	2,921
Robin Goodfellow	21	12.00	21	12.56	21	20.45	21	20.45	American	Sears Shipping Co	424.8	55.0	25.0	Vancouver	Baltimore	General. lumber	8,000	7,473	5,536
Chester Sun	21	12.35	21	13.37	21	22.00	21	22.00	American	Sun Co	429.3	59.2	27.0	San Pedro	Baltimore	Oil	9,998	7,684	5,299
Paul Luckenbach	21	15.15	22	6.52	22	13.55	22	13.55	American	Luckenbach Line	471.1	59.2	27.6	Seattle	New York	General	8,000	9,027	6,539
Etna Maru	22	11.00	22	11.47	22	19.55	22	23.20	Japanese	Kikusai Kisen Kaisha	415.0	55.5	27.0	Astoria	United King'm	Wheat	9,232	7,216	5,339
Katrina Luckenbach	22	7.30	22	12.57	22	20.25	22	20.25	American	Luckenbach Line	445.0	56.0	26.0	Everett	New York	General, lumber	7,564	8,508	6,179
Californian	22	12.30	22	13.40	22	21.45	22	21.40	American	United American Lines	461.1	59.8	28.0	Seattle	Hamburg	General	9,900	8,567	6,020
Cherry Branch	22	13.10	22	14.06	22	22.50	23	0.02	British	Nautilus Steamship Co	400.0	50.0	24.6	Taltal	Liverpool	General	6,650	5,403	3,967
Perene	12	11.15	23	6.51	23	15.16	25	18.59	Peruvian	Peruvian Line	284.1	39.1	18.10	Huacho	Liverpool	General	2,580	2,168	1,529
Poplar Branch	23	10.00	23	11.11	23	19.05	23	20.59	British	Nautilus Steamship Co	396.2	56.2	23.6	Iquique	Liverpool	General	7,070	6,640	5,099
Nebraska	23	9.05	24	7.07	24	14.19	24	15.30	British	Royal Mail Steam Packet Co	450.0	58.0	23.6	Seattle	Southampton	General	4,318	8,878	6,588
Huallaga	23	16.16	24	7.40	24	15.17			Peruvian	Peruvian Line	360.0	44.7	20.0	Iloilo	Cristobal	General	1,366	4,514	2,385
Nebraskan	23	18.00	24	8.38	24	16.06	24	16.06	American	United American Lines	395.1	56.2	24.0	Seattle	Boston	General	4,516	5,707	3,643
Byron D. Benson	24	4.30	24	11.37	24	19.00	24	19.00	American	Tidewater Oil Co	465.4	60.2	27.0	San Pedro	New York	Oil	12,000	8,546	6,095
Siam	24	0.05	24	12.57	24	20.03	24	20.03	Danish	East Asiatic Co	410.0	55.2	27.1	Valparaiso	Copenhagen	General	9,085	7,068	5,303
Sudburry	24	12.45	24	13.28	24	21.10	25	1.35	American	United-American Line	384.8	51.2	24.0	Tacoma	Baltimore	Lumber, copper	6,345		
Havo	24	19.30	25	8.07	25	15.17	25	17.40	Norwegian	Henrik Osterood	385.0	51.0	24.0	Iquique	Wilmington	Nitrate	7,404	5,210	3,756
Terrier	24	22.00	25	8.40	25	16.37	25	18.10	Norwegian	Will Wilhelmsen	400.0	52.0	25.2	Caleta Colosa	Charleston	Nitrate	7,721	5,639	4,161
Kina	25	11.45	25	12.34	25	20.25	25	22.08	Danish	Orient Steamship Co	385.0	53.3	27.0	San Francisco	Copenhagen	General	7,050	6,080	4,618

Hours are expressed on the 24 hour basis and all hours greater than 12 are postmeridian.

MOVEMENTS OF OCEAN VESSELS—Continued.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
Nov. 19	Santa Marta	United Fruit Co	New Orleans via Habana.	Nov. 20	Santa Marta	United Fruit Co	Bocas.
Nov. 20	Louise M. Richard [5]	A. R. Ridgely	New Orleans.	Nov. 20	Colon	Panama Railroad Steamship Line	New York via Haiti.
Nov. 21	San Gil	United Fruit Co	Boston via Habana.	Nov. 21	Louise M. Richard [5]	A. R. Ridgely	Colon.
Nov. 21	Sixaola	United Fruit Co	New York via Habana.	Nov. 22	Sixaola	United Fruit Co	New York via wayports.
Nov. 22	Willet [2]	Merritt & Chapman (S. B.)	Kingston.	Nov. 22	Crijnssen	Royal Netherlands W. I. Mail	Port Limon.
Nov. 22	Parismina	United Fruit Co	New Orleans via Habana.	Nov. 23	Parismina	United Fruit Co	New Orleans via wayports.
Nov. 22	Crijnssen	Royal Netherlands W. I. Mail	Hamburg via wayports.	Nov. 23	Santa Marta	United Fruit Co	New Orleans.
Nov. 22	Puerto Rico	French Line	St. Nazaire and wayports.	Nov. 23	Metapan	United Fruit Co	New York, via Kingston.
Nov. 23	Metapan	United Fruit Co	Colombian ports.	Nov. 23	San Gil	United Fruit Co	Boston via Port Limon.
Nov. 23	Santa Marta	United Fruit Co	Bocas del Toro.	Nov. 23	Willet [2]	Merritt & Chapman (S. B.)	Kingston.
Nov. 24	Turrialba	United Fruit Co	New York via Kingston.	Nov. 23	Puerto Rico	French Line	St. Nazaire and wayports.
Nov. 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.	Nov. 25	Turrialba	United Fruit Co	Colombian ports.
Nov. 24	Canopus [6]	U. S. Navy	Hampton Roads.	Nov. 24	Camito	Elders & Fyffes, Ltd	Kingston.
Nov. 24	O-10 [3]	U. S. Navy	Hampton Roads.	Nov. 25	Crijnssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.
Nov. 25	Crijnssen	Royal Netherlands W. I. Mail	Port Limon.				
Nov. 25	Camito	Elders & Fyffes, Ltd	Port Limon.				

[2] Tug. [3] Submarine. [5] Schooner. [6] Sub-tender.

PORT OF BALBOA.

Nov. 19	U. S. S. Denver	U. S. Navy	La Libertad.	Nov. 20	U. S. S. Denver	U. S. Navy	Caldera, Chile.
Nov. 23	Aysen	Chilean Line	Talcahuano.	Nov. 25	Aysen	Chilean Line	Talcahuano.
Nov. 25	Akera	Anglo-Saxon Petroleum Co	San Francisco.				

* Other than ships passing through the Canal.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops during the week ended November 25:

Tug *Willet*, dock, clean, and paint bottom; calk leaky rivets in hull; manufacture 3 valve spindles, etc.; steamships *Salvador*, manufacture 3 new coils for oil fuel heaters, and install fittings from oil coils, also furnish 2 steel flanges for same; repair plumbing, mosquito netting in staterooms, hatches, and glass in frame; get out 3 wire pennants for derrick guys, etc.; *Perene*, install hand hole gaskets on boiler; skim up safety valves and make tight; reduce collar on high pressure valve stem and set up collars on thrust; braze copper pipe for hoister; install drain cocks in winch cylinders; cover steam pipes in engine room; key up reversing shaft and drag link busses; put steering gear in working order, etc.; *Atto*, electric weld and calk boilers as directed; *Solana*, braze and anneal copper deck exhaust pipe; furnish 4 sets of rings for galley stove; manufacture 2 lugs for accommodation ladder and weld carpenter's vise; *General W. C. Gorgas*, repair steam pipe to steering engine and renew lever for ballast pump; furnish 6 men with scaling hammers to scale as directed; repair section of fire line; forge bracket for winch, etc.; *Chancellor*, repair copper winch pipe; tug *Tavernilla*, repair safety valve; U. S. S. *O–11*, dock, clean, and paint; examine strut bearings and take stern tube clearances and make minor repairs to hull; grind in sea valves; calibrate gauges, voltmeters and ammeters, install additional impulse tank in superstructure; remove superstructure flood and vent valves and make superstructure free flooding; install loop antenna, clearing lines and A-frames; install larger bow planes; remove hydroplanes and close openings in hull; renew bridge deck around periscope and cut water; also plate on side of superstructure; test fuel tanks, etc.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended November 25:

Steamships *Paparoa*, reglaze 4 windows in pilot house; *Perene*, repairs to main engines; remove all cylinder covers and steam chest covers; examine piston rings, cylinders and valves; true up high pressure valve stem; repair circulating pump, installing division plate between suction and discharge valve chambers (old division plate broken away); install steel foundation of sufficient strength to support base of circulating and air pumps; boiler room repairs; clean and scale main boilers; install 4 water column valves; examine manifold valves, suction from fresh water tank and sea suction in engine room; furnish and fit Spanish name plates to all manifold valves in engine room and fire room; examine auxiliary stop valves forward and aft; examine general service pump and make new joints on steam and exhaust pipes of same; repair auxiliary feed pump; repair fresh water pump located in galley; install suction to each side of tank under boiler room and plug up holes in center kulson of that tank so that each side can be used separately for trimming ship; calk a few rivets and seams where leaking and roll leaking tubes in main boilers; repair copper steam pipe No. 1 winch (pipe split); furnish 1 new bronze mitre wheel for steering gear, operating control valve, and make this gear to work properly; examine suction pipes and strainer boxes in all bilges and tanks; repair whistle pipe and valve and patch stack; repair plumbing, captain's toilet; furnish 2 caps for fire hydrants as per sample and make 2 combination connections to fit fire hydrants and new fire hose; free rowlocks in life boats; *A. G. Forse*, unship and remove winch from deck of boat to dock; *Nebraska*, braze 1 small auxiliary line steam pipe; *Chuky*, furnish miscellaneous list of lumber; dredge *Gamboa*, installation of auxiliary pontoons and work incident to the installation; barge *No. 47*, docking, staging and cleaning, scale entire hull and painting 1 coat of red lead, 1 coat of anticorrosive and 1 coat of anti-fouling paint; U. S. submarine *O–13*, docking, staging, and cleaning; painting and routine docking repairs.

PREVIOUSLY REPORTED.

Craneboat *La Valley*, dock, stage, and clean; paint under water body; general repairs and alterations, D. B. boat *L–55*, remove from rocks, tow to Balboa shops, place on docks, remove engine and hull sheathing in way of damages; U. S. submarine *O–14*, dock and routine repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull machinery and deck houses.

Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending November 25, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Cuba	Pacific Mail Steamship Co	November 19	November 19		30
Mineola	Grace Line	November 19	November 19		29
Salvador	Pacific Steam Navigation Co	November 20	November 20	1	
Aysen	Chilean Line	November 23		161	
Manavi	Pacific Steam Navigation Co	November 23	November 23		31
Akera	Shell Oil Co	November 25		6,754	
Hwah Ping	Chungwha Navigation Co	November 25			6
Biyo Maru	Toyo Kisen Kaisha	November 25	November 25		89

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., December 6, 1922. No. 17.

November Traffic Sets New High Record for Tonnage and Tolls.

A new high record for tonnage and tolls of vessels transiting the Canal was established during the month of November, when 294 ocean-going commercial vessels transited the Canal, with an aggregate net tonnage of 1,337,280, Panama Canal measurement, on which tolls of $1,264,436.54 were paid. This makes the 5th consecutive month of the present year in which the tolls have exceeded $1,000,000.

North and southbound traffic, except for cargo tonnage, was about equal, as is shown by the following summary:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific	148	694,963	$636,330.48	501,377
Pacific to Atlantic	146	642,317	628,106.06	[1] 928,000
Totals	294	1,337,280	$1,264,436.54	[1] 1,429,377

[1] Indicates approximate cargo tonnage. Final figures not yet compiled.

The cargo tonnage from the Pacific to the Atlantic represents the greatest one-way cargo movement of any month during the operation of the Canal, and is in itself greater than the combined cargo tonnage passing both ways through the Canal during November of last year.

A comparison of the past month's traffic with that of the preceding month, and of the corresponding month a year ago, follows:

	November, 1921.	October, 1922.	November, 1922.
Number of vessels	222	294	294
Panama Canal net tonnage	942,411	1,300,392	1,337,280
Tolls	$923,048.70	$1,255,508 00	$1,264,436.54
Tons of cargo	855,440	1,445,863	[1] 1,429,377

[1] Indicates approximate cargo tonnage. Final figures not yet compiled.

A comparison of commercial traffic through the Canal for the first 5 months of the present fiscal year as compared with the first 5 months of last fiscal year, shows the following:

Traffic for months July–November, inclusive	1921.	1922.
Number of vessels	1,140	1,336
Panama Canal net tonnage	4,712,991	5,920,086
Tolls	$4,622,869.75	$5,689,473.26
Tons of cargo	4,144,364	6,390,478
Average monthly traffic figures for 5-month period, July-November, inclusive	**1921.**	**1922.**
Number of vessels	228	267
Panama Canal net tonnage	942,598	1,184,017
Tolls	$924,573.95	$1,137,894.65
Tons of cargo	828,873	1,278,096

The average monthly traffic figures for the first 5 months of the present fiscal year show an increase over the average monthly figures of the first 5 months of last fiscal year, of 17.2 per cent in the number of vessels, 25.6 per cent in the Panama Canal net tonnage, 23.1 per cent in tolls, and 54.2 per cent in tons of cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 2, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Balboa	25	10.17	26	6.19	26	13.44	26	15.12	American	Colombian Maritime Co	190.0	29.0	14.2	Pto. Colombia.	Tumaco	General, salt	470	737	335
Agwilake	26	6.57	26	7.35	26	14.51	26	20.30	American	Atl. Gulf & West Indies S. S. Co	468.3	62.7	19.10	New York	Los Angeles	Ballast		10,108	7,483
Kentuckian	26	7.05	26	8.30	26	15.40	26	16.35	American	American-Hawaiian Line	414.5	53.7	23.0	New York	Los Angeles	General	3,638	7,049	4,941
Nowshera	26	7.50	26	9.05	26	16.45	26	17.55	British	British India Steam Nav. Co	450.0	58.4	25.7	New York	Melbourne	General	7,398	8,207	5,427
Magellan	25	16.10	26	9.57	26	17.26	26	20.35	British	Pacific Steam Navigation Co	468.7	59.3	25.8	Hull	Corral	General	7,947	8,817	6,063
Salvador	20	14.30	26	12.16	26	18.40	27	19.53	British	Pacific Steam Navigation Co	215.0	35.4	15.8	Cristobal	Champerico	General	1,070	1,270	735
Chuky	27	17.15	28	6.30	28	14.14	28	15.50	British	Sheridan Steamship Co	440.8	56.0	26.4	Tampico	Tocopilla	Crude oil	9,505	7,636	4,942
Trident	27	21.53	28	7.38	28	15.12	28	16.25	British	Hall Brothers Steamship Co	375.0	51.1	15.0	Cardiff	Vancouver	Ballast		4,718	3,408
Keelung	27	22.37	28	8.00	28	15.53	28	16.51	British	Ellerman & Bucknell Line	400.0	52.0	26.0	New York	Brisbane	General	5,472	6,237	4,537
F. H. Hillman	27	22.45	28	8.40	28	16.45	28	17.38	American	Standard Oil Co	500.0	68.2	23.0	Philadelphia	San Francisco	Ballast		11,225	7,913
Junin	28	3.06	28	10.29	28	17.31	28	18.30	British	Pacific Steam Navigation Co	391.0	50.0	25.3	Swansea	Valparaiso	General	4,497	5,930	4,395
Cedar Branch	28	10.30	28	12.30	28	19.10	28	18.30	British	F. and W. Ritson	390.0	52.0	18.10	London	Valparaiso	General	2,527	4,912	3,642
Ruby[1]	20		28		28	12.23			American	E. J. Hooper				Cristobal	Gatun Lake	Ballast		2	1
Harry Luckenbach	28	16.00	29	6.21	29	13.37	29	14.38	American	Luckenbach Line	448.9	60.2	27.5	New York	Seattle	General	5,800	9,262	6,853
Laconia	29	6.30	29	7.30	29	15.30	29	22.50	British	Cunard Line	601.0	73.6	27.0	New York	San Francisco			22,156	16,037
Wabash	28	17.37	29	8.05	29	16.05	29	17.10	American	N. Atlantic & Western S. S. Co	381.0	49.9	26.6	Philadelphia	Los Angeles	General	4,317	5,825	4,152
Unita	22	2.08	29	9.05	29	17.46	29	18.01	Norwegian	H. M. Wrangell & Co	338.1	48.0	20.0	New Orleans	Portland	Case oil	900	3,999	2,924
Benjamin Brewster	28	22.47	29	9.26	29	18.45	29	19.40	American	Standard Oil Co	411.7	53.2	20.0	Habana	Talara	Ballast		6,177	4,244
Melville Dollar	29	7.40	29	10.55	29	19.57	29	21.12	American	Dollar Line	429.0	55.0	25.6	New York	Los Angeles	General	7,000	7,581	5,519
Atto	24	18.51	29	12.45	29	20.25	29	21.43	German	Roland Line	360.0	51.0	19.1	Hamburg	Buenaventura	General	2,719	4,805	3,400
Kashu Maru	30	0.55	30	6.35	30	13.41	30	14.50	Japanese	Kokusai Kisen Kaisha	400.0	53.0	21.0	Galveston	Yokohama	General	4,745	5,882	4,281
Toba Maru	30	6.20	30	7.50	30	14.35	30	15.50	Japanese	Nippon Yusen Kaisha	445.0	58.0	21.0	Galveston	Yokohama	General	5,978	8,058	5,743
Hagui Maru	30	6.22	30	9.38	30	16.38	30	20.40	Japanese	Osaka Shosen Kaisha	407.0	50.0	22.0	New York	San Francisco	General	3,653	6,202	4,507
Huallaga	24	15.17	30	10.30	30	17.20	30	18.12	Peruvian	Peruvian Line	360.0	44.7	19.5	Cristobal	Callao	General	308	4,514	2,386
Albert Jeffress	30	18.30	1	6.25	1	14.07	1	15.25	American	Garland Steamship Co	384.6	51.2	25.0	Mobile	Los Angeles	General	6,500	6,347	4,453
Cyclops	1	6.10	1	8.15	1	16.18	1	18.00	British	Alfred Holt & Co	185.0	58.2	28.0	New York	Shanghai	General	5,690	9,273	6,562
Gen. W. M. Graham[2]			1	9.15	1	15.49			American	U. S. Army	173.0	32.0		Cristobal	Balboa				
Orcoma	30	19.10	1	9.55	1	16.55	1	18.48	British	Pacific Steam Navigation Co	511.6	62.0	27.6	Liverpool	Valparaiso	General	2,982	12,267	7,942
Aconcagua	29	20.42	1	10.58	1	18.05	1	18.54	Chilean	Chilean Line	422.8	56.2	24.7	New York	Valparaiso	General	2,952	7,758	4,705
Saint Andre	30	12.52	1	11.36	1	18.41	1	19.28	French	French Line	397.9	50.0	16.5	Havre	Guayaquil	General	1,068	5,917	4,146
Paul Shoup	1	13.15	2	6.21	2	13.43	2	15.09	American	Associated Oil Co	424.4	58.2	23.5	Chester	San Francisco	Crude oil	6,400	7,333	5,119
D. G. Schofield	2	4.43	2	7.33	2	14.42	2	15.50	American	Standard Oil Co	439.5	58.0	22.6	Jacksonville	San Francisco	General	4,682	8,912	6,254
Kasenga	2	6.14	2	8.10	2	15.45	2	17.10	British	Ellerman & Bucknell Line	456.0	58.0	20.0	Greenock	Vancouver	Ballast		7,766	5,741
Chicago Maru	2	6.36	2	9.02	2	16.48	2	18.15	Japanese	Osaka Shosen Kaisha	410.0	51.0	26.0	Buenos Aires	Kobe	(3)		3,617	6,123	4,282
Floridian	2	12.42	2	12.50	2	19.19	2	20.35	American	American-Hawaiian Line	415.0	53.5	21.0	New York	Bellingham	General		5,311	7,273	5,105

[1] Launch. [2] Mine planter. [3] Cotton, fertilizer, and general.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Grelhead	26	3.00	26	8.19	26	15.20	26	15.20	British	Andrew Weir & Co	380.0	51.5	23.6	Callao	Marseilles	General	6,600	5,410	3,968
Orleans	26	2.00	26	8.49	26	15.43	26	15.43	American	United American Lines	395.5	55.0	27.0	Los Angeles	New York	General	8,800	7,330	5,233
Eastern Sea	26	8.45	26	9.40	26	17.42	27	15.07	American	United States & Australia Line	384.0	51.1	13.0	Sydney	Boston	General	1,600	5,934	4,415
Keltier	26	11.00	26	12.04	26	20.30	27	22.15	Belgian	Lloyds & Royal Belge	400.2	52.3	29.1	Valparaiso	Venice	Nitrate	7,252	5,718	3,987
Baron Cawdor	26	12.30	26	13.42	26	21.44	27	5.00	British	Hogarth & Son	422.0	56.2	25.2	Portland	Hampton R'ds	Wheat	7,570	5,750	4,849
Iowa	26	17.30	27	6.58	27	14.20	27	14.20	French	French Line	442.9	53.3	26.0	Vancouver	Havre	General	8,463	7,520	5,070
Devon City	27	9.15	27	8.10	27	16.05	27	17.55	British	St. Just Steamship Co	390.0	52.5	23.8	Portland	Naples	Wheat	7,301	5,540	4,283
Santa Elisa	27	5.30	27	9.05	27	15.14	27	19.25	American	Grace Line	360.3	51.7	23.1	Talcahuano	New York	General	3,522	5,957	4,325
Gymeric	27	6.25	27	9.44	27	17.30	28	0.05	British	Andrew Weir & Co	420.0	54.0	26.3	San Francisco	London	Gasoline	3,612	6,501	4,459
Chile	27	8.15	27	10.28	27	17.55	27	20.07	Danish	East Asiatic Steamship Co	425.3	55.2	27.6	Valparaiso	Copenhagen	Nitrate	9,227	7,382	5,663
Iossifoglu	27	12.05	27	12.48	27	20.30	29	16.45	Greek	Hellenic Transport Co	350.0	50.0	22.5	Coronel	Bilbao	Nitrate	6,158	4,431	3,291
West Katan	27	12.45	27	13.20	27	21.10	27	19.10	American	Swayne & Hoyt	410.5	54.3	27.2	San Francisco	Buenos Aires	General	6,179	6,573	4,901
Ioleos	28	3.00	28	7.57	28	16.18	2	13.42	Greek	Hellenic Transport Co	400.0	52.2	25.6	Mejillones	New Orleans	Nitrate	8,080	5,771	4,047
Willsolo	28	9.48	28	10.41	28	18.05	28	18.05	American	Williams Steamship Co	450.0	57.0	24.0	Portland	Baltimore	General	8,000	7,983	5,882
Shawmut	27	11.45	29	7.18	29	13.30	29	15.10	American	U. S. Navy	386.7	52.0	18.0	La Libertad	Philadelphia				
Sunbeam	28	13.50	29	7.45	29	16.30	29	15.30	American	Sun & Co	429.3	59.2	27.0	Los Angeles	Chester, Pa.	Oil	10,972	7,701	5,472
Cacique	29	4.30	29	9.02	29	19.16	29	23.42	American	Grace Line	394.2	52.3	28.0	Portland	Baltimore	General	7,280	6,652	4,913
David McKelvy	29	6.00	29	10.31	29	18.01	29	18.01	American	Tidewater Oil Co	430.0	69.2	27.0	San Pedro	New York	Oil	10,780	7,629	5,393
Steelore	29	9.00	29	14.45	30	13.05	30	13.20	American	Ore Steamship Co	550.3	72.2	31.6	Cruz Grande	New York	Iron ore	19,000	15,551	4,411
Betty			29	14.35					American	C. W. Seifert	23.7	5.8	2.9	Balboa	Gatun				
Vixen			29	14.35					American	C. W. Seifert	23.7	5.8	2.9	Balboa	Gatun				
Mystic	30	15.15	30	7.04	30	14.30	30	14.40	American	United American Lines	400.1	54.0	26.0	San Pedro	Charleston	General	7,105	6,623	2,635
Acajutla	30	15.30	30	7.54	30	14.40			British	Pacific Steam Navigation Co	215.7	33.5	14.0	San Jose	Cristobal	General	140	1,273	706
Roman Prince	30	23.00	30	8.44	30	16.25	30	17.45	British	Prince Line, Ltd	420.0	54.0	24.0	Tacoma	Hull	General	7,450	6,719	5,110
Gen. G. W. Getty			1	6.59	1	15.50			American	U. S. Army	98.0	22.0		Balboa	Cristobal				
American	1	3.30	1	7.53	1	15.40	1	17.15	American	United American Line	415.0	51.0	27.0	San Pedro	Philadelphia	General	6,800	5,918	4,113
Panaman	1	2.00	1	8.43	1	16.00	1	21.20	American	American-Hawaiian Line	407.7	53.7	25.5	Anacortes	Boston	General	6,950	7,098	5,029
Potosi	1	5.40	1	9.52	1	17.33	1	19.30	British	Pacific Steam Navigation Co	381.0	49.0	25.0	Punta Arenas	Liverpool	General	6,083	5,559	4,201
Evriken	1	8.00	1	10.40	1	17.55	1	18.54	Norwegian	Haakon J. Wallen	420.0	54.0	19.6	Cebu	Boston	Copra, hemp	3,590	6,979	5,131
Tudorstar	1	8.45	1	11.21	1	19.35	1	20.30	British	Blue Star Line	458.0	54.0	24.6	San Francisco	London	Refrig. apples	5,000	7,224	5,574
Victorious	1	10.15	1	12.40	1	21.10	2	11.07	American	Tampa Interocean S. S. Co	440.0	56.0	29.0	Saigon	New York	General	10,756	8,328	6,036
Jason	1	11.25	1	13.35	1	22.00	3	6.15	Dutch	Dutch West India Mail	358.6	48.3	22.0	Antofagasta	Havre	General	4,650	4,321	3,120
F. J. Luckenbach	1	14.30	2	7.00	2	13.50	2	13.50	American	Luckenbach Line	446.0	56.0	28.5	Portland	New York	General	7,850	8,508	6,179
San Eduardo	2	0.35	2	7.10	2	15.09	2	17.55	British	Anglo-Mexican Petroleum Co	418.0	54.0	19.6	Antofagasta	Tampico	Ballast		6,390	4,382
San Juan	2	5.50	2	10.51	2	17.24			American	Pacific Mail Steamship Co	283.0	37.0	16.0	San Francisco	Cristobal	General	380	2,378	1,593
Baron Ogilvy	2	10.40	2	11.27	2	18.40	2	21.00	British	H. Hogarth & Sons	466.0	58.0	24.6	Portland	Cristobal[4]	Wheat	7,964	7,653	5,222
Pennsylvanian	2	11.35	2	12.42	2	20.55	3	0.15	American	United American Lines	407.0	53.7	29.4	Vancouver	Hamburg	General	7,884	7,107	4,916

[4] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 222, column 2.)

The "Favorite" Used for Repatriating West Indians.

The lighthouse tender *Favorite* has completed a voyage in November on which she was used for the repatriation of West Indian laborers and their families to the islands of Barbados and Antigua. The vessel carried 111 West Indian passengers, 41 of whom had been patients at Corozal Hospital, and were accompanied by attendants from that institution.

The *Favorite* received the repatriates at Pedro Miguel, and sailed on November 10, at 10 a. m. Following a fair passage with only slight head seas the vessel arrived at Barbados at 9 a. m., November 16. After discharging passengers at this port the ship sailed for Antigua, at 5 a. m., November 17, and arrived at 1 p. m. the next day. Leaving Antigua at 5 a. m. the 19th, the *Favorite* reached Cristobal harbor about noōn on the 23d. The weather was fair during the entire voyage and there was but little inconvenience arising from the number of passengers carried.

The distance covered by the *Favorite* on the round voyage was 2,700 miles.

The "Laconia" Transits Canal with Tour Party on an Around-the-World Cruise.

The Cunard liner *Laconia* transited the Canal on Wednesday, November 29, on an around-the-world cruise, with a party of 356 tourists, conducted by the American Express Company. She had come from New York by way of Habana, and at San Francisco, the next scheduled stop, will take on other passengers for the rest of the cruise. From San Francisco the route will include Japan, China, the Philippine Islands, Malay Peninsula, Java, Ceylon, thence through the Red Sea and Suez Canal to the Mediterranean, then to Great Britain and back to New York. The voyage is to end the latter part of March, 1923.

This is the first commercial passenger vessel to have passed through the Canal on an around-the-world cruise, and her passage aroused unusual interest at the Canal. The Governor of The Panama Canal, and other prominent officials of the Canal Zone and Panama, came through the Canal on the vessel, as the guests of the company. The party disembarked at Pedro Miguel Lock and took automobiles for the drive to Balboa and Panama. At Balboa they were entertained by an exhibition by the Red, White and Blue Troupe of swimmers. After a drive to the principal points of interest they had dinner at the Tivoli Hotel. The vessel sailed from Balboa at 10 o'clock that evening.

The *Laconia* is one of the largest passenger vessels to have passed through the Canal. She is 601.3 feet in length by 73.7 feet beam, and her registered gross and net tonnages are 19,680 and 11,829 tons, respectively. The tolls paid for her transit through the Canal were $13,237.50.

German Line Operating Motor Ships in European-South American Trade.

The motorship *Osiris*, owned and operated by the Kosmos Line, transited the Canal on November 21, on her maiden voyage, laden with 4,420 tons of merchandise, consisting principally of iron and steel for discharge at South American west coast ports.

The *Osiris* is a sister ship of the *Isis*, owned and operated by the

same company, and which likewise recently transited the Canal bound for South American west coast ports on her initial voyage. Both vessels will continue to operate in the European-South American trade through the Canal, the long haul over this route being particularly attractive to motorships.

Supplement No. 4 to Tariff No. 6.—Tug "Coco Solo."

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
BALBOA HEIGHTS, C. Z., November 15, 1922.

ITEM 5.—TUGS AND SUPPLY BOATS.

SMALL TUGS.

(Effective November 1, 1922.)

Add:

5. Coco Solo—
   For two or more consecutive days, and for each succeeding day or fraction thereof, special rate.....per day..$75.00

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Supplement No. 5 to Tariff No. 6.—Baggage Allowance.—Freight Classification and Tariff.—Express Tariff.—Switching Tariff.—Storage and Car Demurrage Rates.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
BALBOA HEIGHTS, C. Z., December 1, 1922.

ITEM 34.—BAGGAGE ALLOWANCE.

(Effective January 1, 1923.)

	Free allowance.	Maximum liability.
First class full fare	150 lbs.	$100.00
First class half fare	75 lbs.	50.00
Second class full fare	75 lbs.	50.00
Second class half fare	35 lbs.	25.00

Baggage not exceeding the above weights will be carried free when accompanied by owner, between the stations shown on the tickets.

If the passenger's baggage weighs in excess of the above allowance, a charge of 1 cent per pound (any distance) for the excess weight will be made. Minimum charge, 25 cents.

The railroad's liability is limited to wearing apparel or traveler's samples, and not to exceed the maximum liability amounts shown above.

Passengers must sign a release provided for that purpose.

If a higher valuation is declared than the above maximum liability, a charge of ¼ of 1% on the excess valuation will be made. Minimum charge, 25 cents.

Baggage not accompanied by passengers will be shipped as express at the rates fixed in the express tariff.

ITEM 35.—SPECIAL TRAINS.

(Effective December 1, 1922.)

1. Special train, consisting of engine, baggage or buffer car, and 1 coach, minimum charge, deposited or guaranteed in advance, $100. The rate for a 1-way train will be the same as for a round trip within 12 hours. If train does not return to starting point within 12 hours, an additional charge of $50 will be made.

All passengers must be provided with tickets or other regular forms of transportation.

ITEM 43.—PANAMA RAILROAD FREIGHT CLASSIFICATION AND TARIFF.

(Effective January 1, 1923.)

1. This supplement cancels Panama Railroad Company "Classification and Tariff Rates between all Stations (No. 4), effective December 10, 1907, amended to July 1, 1915" and all supplements and circulars thereto.

2. Effective January 1, 1923, all local shipments will be classified in accordance with the Official Classification of the United States, as approved by the Interstate Commerce Commission, with the following exceptions:

(*a*) Shipments of cargo from ship to ship over the Panama Railroad between the Atlantic and Pacific terminals will be continued at the rates fixed in Item 18, paragraph 24, page 31, of Tariff No. 6.

(*b*) Shipments between Panama and Balboa docks will be handled in accordance with paragraphs 3 (*d*) and 3 (*e*), Item 18, of this tariff.

	Rating.
(*c*) Bananas, green:	
In bunches or in packages, L. C. L.	4
In bunches or in packages, C. L. (m/n 20,000 lbs.)	5
(*d*) Circus, opera, and/or theatrical outfits:	
Not to include personal baggage, L. C. L.	1
Carloads, including animals, any distance, $50 for first car, $40 for second car, and $30 for each additional car, when moved as one consignment, under one bill of lading.	
(*e*) Coal:	
Anthracite, bituminous, blacksmith, cannel, lignite, briquettes, C. L. (m/n 40,000 lbs.)	6
(*f*) Explosives, N. O. I. B. N.:	
Subject to the regulations quoted in the Official Classification for the transportation of explosives by freight. Shippers must give the Panama Railroad sufficient notice so that properly inspected equipment can be provided before shipment can be accepted.	
In barrels or boxes, L. C. L.	3t1
In packages named, C. L. (m/n 20,000 lbs.)	1
(*g*) Fruits, tropical (edible, fresh, not including coconuts or cacao):	
In sacks, barrels, boxes, crates, L. C. L.	4
In packages named, in bulk, C. L. (m/n 20,000 lbs.)	5
(*h*) Hats, Panama:	
Not accepted for local shipment as freight. (See Rule 3, Official Classification.)	
(*i*) Live stock:	
Live stock, chiefly valuable for breeding, racing, show purposes, or other special uses.	
Ordinary live stock.	
Rate here quoted to be used only under the conditions specified in the Official Classification and where it says, "C. L. rates and C. L. mininum weights in tariffs of individual carrier will apply."	
Carloads, except Hogs, Goats, and Sheep (m/n 15,000 lbs.)	2
(When actual weight is not obtainable an estimated weight of 800 pounds per animal will apply.)	
Hogs, Goats, and Sheep, C. L. (m/n 10,000 lbs.)	2
(When actual weight is not obtainable an estimated weight of 175 pounds per animal will apply.)	
Where inspection is required, the properly executed inspection certificate must be furnished the Panama Railroad forwarding agent before the live stock is loaded into car.	
Shippers must give the Panama Railroad sufficient notice so that properly inspected equipment can be provided before shipment can be accepted.	
(*j*) Lumber:	
Balsa, cedar, cocobolo, lignum-vitæ, mahogany, nazarene:	
Exceeding 13/16-inch in thickness—	
Loose or in packages, L. C. L.	3
Loose or in packages, C. L. (m/n 36,000 lbs.)	5
Lumber, N. O. I. B. N., exceeding 13/16-inch in thickness—	
Loose or in packages, L. C. L.	5
Loose or in packages, C. L. (m/n 36,000 lbs.)	6
(*k*) Logs:	
Balsa, cedar, cocobolo, lignum-vitæ, mahogany, nazarene—	
Loose or in packages, L. C. L.	4
Loose or in packages, C. L. (m/n 36,000 lbs.)	5

(*k*) Logs—Continued:

	Rating.
Logs, native, N. O. I. B. N.—	
Loose or in packages, L. C. L.	4
Loose or in packages, C. L. (m/n 30,000 lbs.)	6

(*l*) Rubber, crude:

In blocks or slabs not less than 1 cubic foot each in size, same as in bags, barrels, boxes, or bales.

(*m*) Refrigerated products:

See Rules 31 and 32, Official Classification.

Cost of refrigeration will be charged in addition to regular freight rate.

Charge for refrigerating a car $20.00

Minimum charge (whether C. L. or L. C. L.) including refrigeration of car $52.50

On L. C. L. shipments loaded in the same car, the charge of $20 for refrigeration, or the minimum charge of $52.50 will be prorated to each L. C. L. shipment on the basis of the regular freight charges on such shipments.

Sufficient advance notice must be given for the combining of shipments and the preparation of cars.

(*n*) Sewing machines:

Foot, hand, or electric—

Not crated or boxed, but machine head fully protected and Panama Railroad released from all risk of loss or damage, L. C. L. 3t1

If machine head not properly protected and Panama Railroad not fully released, not accepted for shipment.

(*o*) Sugar, raw:

In tins or kegs, same as in bags or barrels.

(*p*) Sugar cane:

In bundles, barrels, boxes, crates, L. C. L.	4
In packages named, in bulk, C. L. (m/n 30,000 lbs.)	5

(*q*) Trunks:

Trunks containing household goods and/or personal effects, not boxed or crated but securely locked, strapped, or roped, Panama Railroad released from all risk, L. C. L. 2t1

If not securely locked, strapped, or roped, and Panama Railroad not fully released, not accepted for shipment.

(*r*) Vegetables:

Fresh or green—

In sacks, barrels, boxes, crates, L. C. L.	4
In packages named, in bulk, C. L. (m/n 20,000 lbs.)	5

3. The following rates in cents, U. S. C., per 100 pounds, between all stations, will apply:

	1st class.	2d class.	3d class.	4th class.	5th class.	6th class.	R. 25 class.	R. 26 class.	R. 28 class.
For any distance not exceeding 25 miles..	40	35	30	25	20	15	30	25	27
For any distance exceeding 25 miles but not over 50.....	50	45	40	30	25	20	40	30	34

Minimum charge for any single shipment, 50 cents, U. S. C.

4. All shipments will be subject to all the rules and regulations of the Official Classification, including the conditions of the Uniform Bill of Lading and Live Stock Contract.

5. Where the specific requirements of the Official Classification as to the particular packing of shipments are waived, the Panama Railroad Company will be released from all risk of loss or damage; otherwise, Section 3, Rule 5, will apply.

6. Products of the Republic of Panama and/or the Canal Zone, manufactured or unmanufactured, will be accepted and billed at one-half of the tariff rates when satisfactory evidence is furnished the forwarding agent of the Panama Railroad that they are *bona fide* products of the Republic of Panama and/or the Canal Zone, but in no case shall the charge for a single shipment of native products be less than 50 cents, U. S. C.

Item 44.—Panama Railroad Express Tariff.

(Effective January 1, 1923.)

1. Express shipments will be accepted and carried, as far as practicable, in accordance with the conditions, rules, and regulations applicable to shipments by freight as set forth in Item 43.
2. The following rates in cents, U. S. C., per 100 pounds, between stations, will apply on all express shipments not exceeding $100 in valuation:
   For any distance not exceeding 25 miles..... $0.60
   For any distance over 25 miles but not exceeding 50 miles..... .75
3. If valuation in excess of $100 is declared, additional charge will be made on the excess valuation at the rate of..... ¼ of 1%
4. Bank bills, coin, or currency; deeds, drafts, notes or valuable papers of any kind; jewelry; postage stamps, or articles with postage stamps affixed; precious metals or articles manufactured therefrom; precious stones; Panama hats or other articles of extraordinary value, N. O. I. B. N. Any distance..... ¼ of 1% *advalorem.*
5. Baggage, either personal or samples, in cases or trunks, uncrated, but securely locked, strapped, or roped. Any distance.....per lb.. $0.01
6. Household goods and furniture.....2 times express rate per cwt.
7. Sewing machines, hand, foot, or electric, uncrated, but with head fully protected.....Same as household goods.
   (If head not fully protected, not accepted for shipment.)
8. Empty milk-shipping cans, when returned after shipment over road by express. Any distance.....each.. $0.10
9. Live poultry (not fancy), live pigeons (not fancy), in coops or crates, 1⅓ times express rate per cwt.
10. Dogs chained, and muzzled, uncrated, valuation not to exceed $25. Any distance.....each.. $1.00
11. Parrots, monkeys, live pets, on chains, not in crates or cages, valuation not to exceed $25. Any distance.....each.. 1.00
12. Dogs, parrots, monkeys, live pets, where valuation exceeds $25, not taken unless securely crated or boxed, or in secure cages. If securely crated or boxed, or in secure cages, valuation not to exceed $50.....each.. 2 times express rate per cwt.
13. Bears, on chains, must be accompanied by attendant holding regular first- or second-class transportation. Any distance.....each.. $7.50
14. Bears, in secure cages or securely boxed or crated....2 times express rate per cwt.
15. Lions, in strong boxes or cages, must be accompanied by attendants holding regular first- or second-class transportation.....each.. $25.00
16. Tigers, pumas, leopards, in strong boxes or cages, must be accompanied by attendant holding regular first- or second-class transportation. Any distance.....each.. 15.00
17. Single packages, not exceeding fifteen (15) pounds in weight, nor $25 in valuation. Any distance.....per package.. .25
18. Minimum charge on any single shipment (except single package not exceeding 15 pounds). Any distance..... .50

Item 45.—Panama Railroad Switching Tariff.

(Effective January 1, 1923.)

Per car.

1. On inbound cargo at Cristobal or Balboa docks, when delivery is requested in cars at some place in the terminal yards, other than the dock team tracks, but not to apply to Fort Amador or to Mount Hope yard when destined to points on Fort Randolph branch..... $7.50
2. For moving loaded cars from industrial tracks or private sidings for shipment over the railroad..... 5.00
3. For placing loaded cars on industrial tracks or private sidings after moving over the railroad..... 5.00
4. For moving loaded cars between any two points inside yard limits..... 10.00
   (This includes cars moved from points in the terminal yards to Cristobal docks or Balboa docks, but does not apply to cars from Fort Randolph branch.)
5. All carloads from the road will be spotted for delivery on a designated team track in the yard, unless arrangements are made by consignees to have s placed elsewhere, in which case there will be a charge of..... 5.00
   (This rate does not apply to cars placed on Army interchange track, Fort Amador.)

Per car.

6. For moving cars from the Balboa yard to the Panama yard, or *vice versa* . . $15.00
7. Cars of cargo from the Cristobal or Balboa docks for shipment over the railroad will be switched without charge.
8. Cars of freight which moved over the railroad will be switched to the docks for delivery to vessels without charge.
9. From Cristobal docks or from any other point in the Cristobal-Colon yard to Mount Hope yard for shipment to any point on the Fort Randolph branch 5.00
10. Mount Hope yard to or from any point on the Fort Randolph branch the charge will be for locomotive service at the regular hourly rates.
11. Cars from the Fort Randolph branch will be moved from Mount Hope yard to any point in the Cristobal-Colon yard, including the Cristobal docks 5.00
12. From Balboa docks, or from any other point in the Balboa yard, to the Army interchange track at Fort Amador (Fields siding), or *vice versa* . . . 10.00
13. Beyond the Army interchange track the charge will be for locomotive service at the regular hourly rates.
14. If an engine is required to stand by until a car is loaded or unloaded, or is unduly delayed by consignor or consignee in making a switch move, a charge will be made for locomotive service at the regular hourly rates, in addition to the switching charge.

ITEM 46.—PANAMA RAILROAD STORAGE AND CAR DEMURRAGE RATES.

(Effective January 1, 1923.)

1. Storage charges will be made on shipments remaining at the stations of origin or destination longer than seventy-two (72) hours, at the following rates:
   (*a*) Freight, three (3) cents per 100 pounds per day, minimum charge . . .25
   (*b*) Express and baggage, twenty-five (25) cents per package per week or fraction thereof.
2. Demurrage:
   (*a*) No charge for car service will be made for the first seventy-two (72) hours (exclusive of Sundays and holidays), beginning at 7 a. m. after placing.
   (*b*) When cars are detained more than seventy-two (72) hours from the time such cars are placed (at the request of the shipper) ready to load, a demurrage charge will be made at the rate of $5 per car per day or fraction thereof, Sundays and holidays excluded.
   (*c*) When cars are not unloaded and released by consignee within seventy-two (72) hours in accordance with paragraph (*a*), a demurrage charge will be assessed at the rate of $5 per car per day or fraction thereof, Sundays and holidays excluded.

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Executive Order.

By virtue of the authority vested in me by Section 288 of the Penal Code of the Canal Zone, as amended by Section 4 of the Act of Congress entitled: "An Act to amend sections 7, 8, and 9 of the Panama Canal Act; to amend sections 288, 289, 342, 343, 368, and 461 of the Penal Code of the Canal Zone; and section 2 of the Executive Order of July 9, 1914, establishing rules and regulations for the operation and navigation of the Panama Canal and approaches thereto, including all water under its jurisdiction; to amend section 6 of an act entitled 'An act extending certain privileges of canal employees to other officials on the Canal Zone, and authorizing the President to make rules and regulations affecting health, sanitation, quarantine, taxation, public roads, self-propelled vehicles, and police powers on the Canal Zone, and for other purposes, including provision as to certain fees, money orders, and interest deposits', approved August 21, 1916; and to regulate divorces in the Canal Zone, and for other purposes," approved September 21, 1922, I hereby establish the following regulations for the Canal Zone:—

SECTION I.

The Governor of the Panama Canal is hereby authorized and empowered to appoint a Boxing Commission for the Canal Zone consisting of five members, one of

whom shall be an officer of the United States Army and one of whom shall be an officer of the United States Navy. The members of said Boxing Commission shall receive no compensation for their services, and shall be removable at the pleasure of the Governor of the Panama Canal. The duties of the Boxing Commission and the authority vested therein shall be defined by the Governor of the Panama Canal.

SECTION II.

Voluntary boxing and sparring exhibitions may be conducted in the public schools of the Canal Zone, and also under the supervision of the Bureau of Clubs and Playgrounds of the Canal Zone, for the purpose of giving physical instruction, training, and recreation to the residents of the Canal Zone.

SECTION III.

Voluntary boxing and sparring exhibitions may be held on the military and naval reservations and naval ships within the Canal Zone under the supervision of the Army and Navy respectively, and subject to such regulations as may be promulgated by the military or naval officers in command of such reservations, or vessels; *provided, however*, that none but men in the service of the United States Army or Navy shall be participants in such exhibitions.

SECTION IV.

Voluntary boxing or sparring exhibitions, other than as herein specifically authorized, may be held on the Canal Zone upon a permit therefor being issued by the Governor of the Panama Canal, or by the Boxing Commission with the approval of the Governor.

WARREN G. HARDING.

THE WHITE HOUSE,
November 14, 1922.

[No. 3754.]

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending December 2, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Balboa	Colombian Maritime Co		November 26		31
Salvador	Pacific Steam Navigation Co		November 26		1,070
Magellan	Pacific Steam Navigation Co		November 26		90
Abangarez	United Fruit Co	November 26	November 27	½	105
Solana	Pacific Mail Steamship Co	November 27	November 28	9,500	(1)
Camden	United Fruit Co	November 27	November 29	8,829	(1)
Junin	Pacific Steam Navigation Co	November 28	November 28	(2)	77
Ulua	United Fruit Co	November 28	November 28	350	225½
General W. C. Gorgas	Panama Railroad Steamship Line		November 29		2,338
Cartago	United Fruit Co	November 28	November 30	936	25
Eupatoria	Hamburg-American Line	November 29	November 29	99¼	1
Carrillo	United Fruit Co	November 29	November 30	82	209
Huallago	Peruvian Line		November 30		308
Acajutla	Pacific Steam Navigation Co	November 30		140	
Abangarez	United Fruit Co	November 30	November 30	(3)	91
Orcoma	Pacific Steam Navigation Co	November 30	December 1	69	10
Saint Andre	French Line	November 30	December 1	40	(1)
Jason	Royal Netherlands W. I. Mail	December 1	December 2	41	7
San Benito	United Fruit Co	December 2	December 2	8½	12
San Juan	Pacific Mail Steamship Line	December 2		381	

[1] No cargo laded. [2] No cargo discharged. [3] 40 pounds.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 2, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Lompoc	Union Oil Company of California	November 27	November 29	9,250	
Acajutla	Pacific Steam Navigation Co	November 29	November 30	8	
Laura C. Hall	Pacific Metals Transportation Co	December 2	December 2	5	
San Juan	Pacific Mail Steamship Co	December 2	December 2	27	

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended December 2:

Steamships *Cacique*, make bull ring; *Acajutla*, repair winch exhaust pipe, discharge pipe from sanitary pump, water supply pipe to condenser, refrigerator chamber door, cargo scales, wash deck service pipe, log rotator, hatch bar, receiver in chief officer's room, mosquito netting in purser's room and in stateroom 110; renew glass in dining saloon, etc.; *W. L. Connolly*, renew pin in crank shaft of main engine; ream coupling holes and make new bolts; true up thrust shaft; refit cams and eccentrics; fit new shrouds on eccentric straps; renew 1 stay bolt in port boiler, etc.; *Stanley Dollar*, repair anchor windlass and auxiliary steam pipe; *Perou*, electric weld boilers as directed; *Cristobal*, make new ladder from main deck to poop deck; renew rivets where loose or missing on main deck aft and ring bolts on port side of smoking room; repair deck in butcher's shop and blank off holes in deck house; manufacture 2 lids for samson posts, etc.; *Ulua*, *Albaro*, and *Jason*, minor repairs.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended December 2:

Motorship *Ligia Elena*, remove boat from water and place on docks preparatory to installing new Wolverine engine; tug *Darien*, install winch and perform miscellaneous small repairs around cabin and hatches; launch *Grace*, remove launch from water and place on docks, repair intake valve, replace in water.

PREVIOUSLY REPORTED.

Dredge *Gamboa*, installation of auxiliary pontoons and work incident to the installation; barge *No. 47*, docking, staging and cleaning, scaling entire hull and painting 1 coat of red lead, 1 coat of anticorrosive, and 1 coat of antifouling paint; U. S. submarine *O–13*, docking, staging, and cleaning, painting, and routing, docking repairs; craneboat *La Valley*, dock, stage and clean, paint under water body, general repairs and alterations; D. B. boat *L–55*, remove from rocks, tow to Balboa shops, place on docks, remove engine and hull sheathing in way of damages; U. S. submarine *O–14*, dock and routine repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull machinery and deck houses.

Location of British Consulate in Panama.

The chancery and offices of the British Consulate General at Panama have been removed to the building situated at the corner of 8th Street and South Avenue.

Panama City Licenses for Motorcycles.

The Executive Office of The Panama Canal has been informed by the alcalde of Panama that Canal Zone residents who have been issued licenses by the Zone Government for the operation of motorcycles or motor-propelled bicycles need not undergo an examination in Panama City to obtain the license which is required under the provisions of Decree No. 30 of November 14, 1922. Under this arrangement, the examination fee of $1.50 is waived in the case of Canal Zone residents, and the only fee collected from them by the municipality is $1.00 to cover the cost of the license.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Official Circulars.

Acting Governor.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., December 6, 1922.

To all concerned—Effective December 7, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., Engineer of Maintenance, will be Acting Governor.

JAY J. MORROW,
Governor.

Duties of President, Panama Railroad Company.

PANAMA RAILROAD COMPANY,
OFFICE OF THE PRESIDENT.
BALBOA HEIGHTS, C. Z., December 6, 1922.

To all concerned—Effective December 7, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., Second Vice President, will perform such duties of the President as relate to the operations of the Company on the Isthmus.

JAY J. MORROW,
President, Panama Railroad Co.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 213.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Nov. 26	Abangarez	United Fruit Co.	New Orleans via Habana.
Nov. 27	Solaua	Pacific Mail Steamship Co.	Tampico.
Nov. 27	Camden	United Fruit Co.	Tampico.
Nov. 28	Ulua	United Fruit Co.	New York via Habana.
Nov. 28	Cartago	United Fruit Co.	New Orleans via Habana.
Nov. 29	St. Mihiel[5]	U. S. Army	New York.
Nov. 29	Eupatoria	Hamburg-American Line	Puerto Barrios.
Nov. 29	Carrillo	United Fruit Co.	New York via Kingston.
Nov. 30	W. L. Connolly	Sinclair Navigation Co.	Tampico.
Nov. 30	Abangarez	United Fruit Co.	Bocas del Toro.
Dec. 1	Cristobal	Panama Railroad Steamship Line.	Norfolk.
Dec. 2	San Benito	United Fruit Co.	Port Limon.

[5] Transport.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
Nov. 27	Darien	Henry Obarrio & Co.	Panama.
Nov. 27	Lompoc	Union Oil Co.	Port San Luis.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Nov. 27	Abangarez	United Fruit Co.	Bocas del Toro.
Nov. 28	Solaua	Pacific Mail Steamship Co.	Tampico.
Nov. 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
Nov. 29	Eupatoria	Hamburg-American Line	Cartagena.
Nov. 29	Ulua	United Fruit Co.	Port Limon.
Nov. 29	Camden	United Fruit Co.	Tampico.
Nov. 29	Cartago	United Fruit Co.	New Orleans via wayports.
Nov. 30	Abangarez	United Fruit Co.	New Orleans.
Nov. 30	Carrillo	United Fruit Co.	Colombian ports.
Dec. 2	San Benito	United Fruit Co.	Boston.
Dec. 2	Saint Mihiel[5]	U. S. Army	New York via San Juan.

Date.	Vessel.	Line.	For—
Nov. 26	Hwah Ping	Chinese Government	Hongkong.
Nov. 28	Akera	Anglo-Saxon Petroleum Co.	Los Angeles.
Nov. 29	Lompoc	Union Oil Co.	Port San Luis.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

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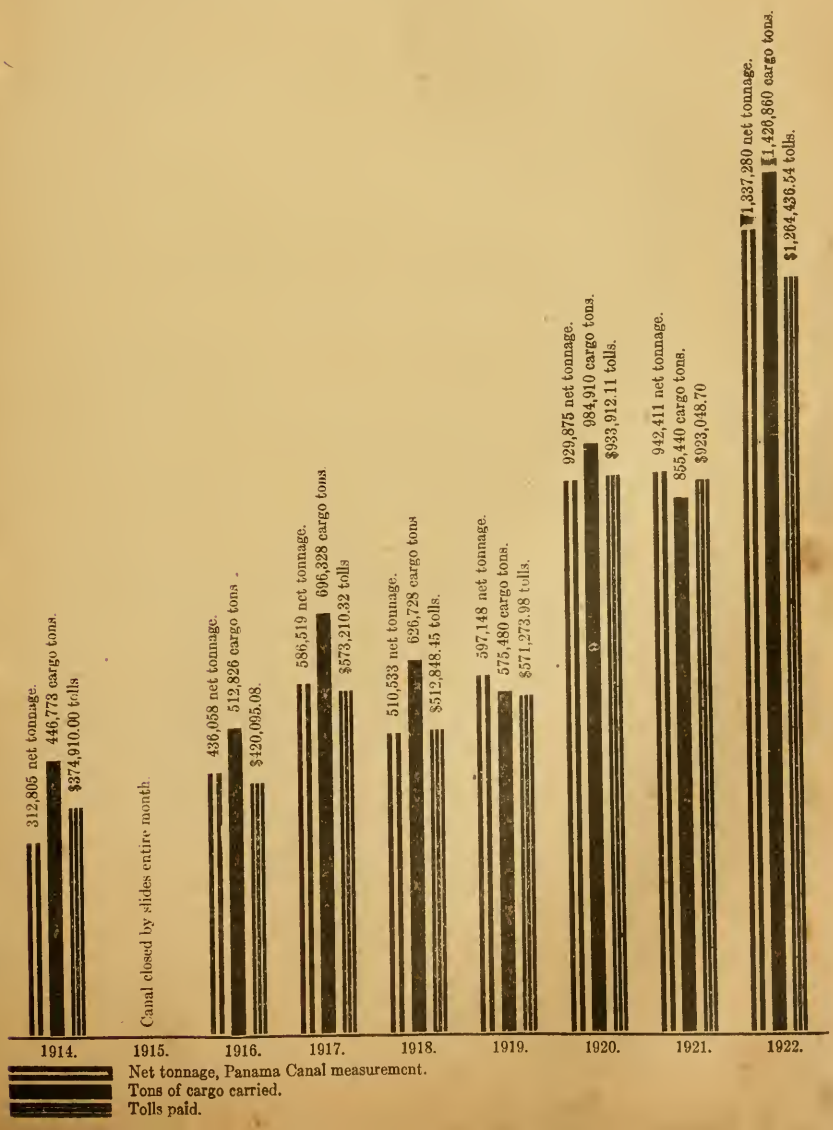
Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., December 13, 1922. No. 18.

November Traffic.

The graph below with accompanying figures, shows the traffic through the Panama Canal in the months of November for the years 1914 to 1922, inclusive:



MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 9, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Edgar F. Luckenbach	2	16.30	3	6.26	3	13.54	3	17.38	American	Luckenbach Line	425.0	57.3	26.0	Boston	San Francisco	General	8,500	8,568	6,705
Santa Barbara	2	16.17	3	7.30	3	15.00	3	15.45	American	Grace Line	404.6	53.9	15.5	New York	Caleta Colosa	Ballast		6,789	4,746
Santa Malta	2	4.28	3	7.58	3	15.56	3	16.49	American	Atlantic & Pacific Steamship Co.	404.0	54.0	24.6	New York	Los Angeles	General	6,000	6,766	4,809
Winding Gulf	3	1.20	3	8.40	3	16.37	3	18.00	American	Castner, Curran, & Bullitt	368.6	55.0	20.0	Norfolk	Grays' Harbor	Ballast		5,677	3,603
Ammon	3	2.34	3	9.19	3	17.09	3	18.00	German	Kosmos Line	438.4	55.4	19.0	Hamburg	Guayaquil	General	2,195	7,341	5,200
George Allen	3	1.42	3	10.25	3	17.55	3	19.48	American	Garland Steamship Co	385.0	51.0	27.8	Philadelphia	Los Angeles	General	8,000	6,224	4,465
Santa Tecla	3	9.25	3	12.37	3	18.56	3	20.47	American	Grace Line	298.6	40.0	21.5	New York	Salaverry	General	1,965	2,832	1,803
Tredenham	3	17.45	4	6.25	4	13.55	4	15.20	British	Hain Steamship Co	479.7	62.2	27.0	New York	Auckland	General	7,050	9,458	6,867
Steel Exporter	3	21.30	4	7.03	4	15.06	4	16.15	American	U. S. Steel Products Co	424.2	56.2	26.7	New York	Vancouver	Steel	7,428	7,611	5,450
Port Lincoln	4	6.30	4	8.45	4	15.50	4	17.10	British	Commonwealth & Dom. Line	426.0	54.1	25.4	Cardiff	Sydney	General	2,724	7,544	5,256
Herakles	4	6.45	4	9.18	4	16.51	4	18.20	Norwegian	Brausgaard & Co	389.8	54.1	16.0	Philadelphia	Valparaiso	General	400	5,680	4,220
West Jessup	4	9.15	4	9.35	4	17.29	4	21.45	American	Swayne & Hoyt (S. B.)	410.5	54.2	21.8	Buenos Aires	San Francisco	General	5,365	6,756	4,874
Edward Pierce	4	11.47	4	12.02	4	18.25	4	19.45	American	Crowell & Thurlow	354.2	49.0	23.0	Boston	Seattle	General	3,000	4,591	3,261
L-53 [1]			4		4	15.57			American	U. S. Army				Cristobal	Balboa				
Altair [2]	3	7.50	5	6.20	5	14.03	5	15.05	American	U. S. Navy	409.6	54.0	19.1	New York	San Diego	Naval stores	770	7,499	5,003
Laura C. Hall [3]	3	16.30	5	6.09	5	13.59	6	10.41	British	Pacific Metals Corp	81.0	25.0	9.0	Cristobal	Buenaventura	General	[5] 15	132	72
Toco	4	15.02	5	7.40	5	14.55	5	16.09	British	Sheridan Steamship Co	440.0	56.0	26.6	Tampico	Tocopilla	Crude oil	9,443	7,693	4,885
Cape May	4	19.25	5	8.25	5	15.59	5	17.12	American	U. S. & Australia Line (S. B.)	415.0	53.7	25.0	New York	Brisbane	General	5,500	7,072	4,944
Robert Dollar	5	0.06	5	8.55	5	16.50	6	1.30	British	Dollar Line	523.5	65.7	21.0	New York	Vancouver	Gen., phosphates	7,011	12,370	8,885
Statesman	5	13.12	5	13.25	5	20.45	5	22.35	British	Harrison Line	423.0	53.0	24.0	Glasgow	Vancouver	General	5,884	6,361	4,592
Stanley Dollar	4	5.49	5	13.35	5	21.01	6	2.20	American	Dollar Line	288.8	44.6	20.0	Baltimore	Los Angeles	General	2,418	3,460	2,404
Tuscaloosa City	5	13.35	6	6.25	6	13.55	6	15.25	American	Isthmian Line	424.0	56.2	25.0	New Orleans	Yokohama	(6)	7,412	7,611	5,450
Evelyn	5	13.20	6	7.25	6	14.53	6	16.05	American	A. H. Bull & Co	313.6	46.0	20.5	New York	Los Angeles	General	3,800	3,615	2,560
Santa Veronica	6	7.00	6	7.45	6	16.07	6	21.30	American	American & Cuban Steamship Co	251.0	43.6	23.6	Baltimore	San Francisco	(7)	3,467	2,823	1,740
Henderson [4]	6	9.20	6	10.55	6	17.00	7	7.10	American	U. S. Navy	483.0	61.0	22.4	Hampton R'ds	San Francisco	Naval stores	525		
Humaconna [5]	5	20.20	6	11.35	6	17.36	6	18.55	American	Merrill Ring Lumber Co	142.0	27.0	15.0	Norfolk	Seattle	Ballast		446	114
Otarama	6	9.00	7	6.29	7	13.45	7	14.55	British	New Zealand Shipping Co	454.0	56.3	29.11	Liverpool	Auckland	General	6,718	7,981	5,518
Santa Ana	6	14.04	7	7.55	7	14.55	7	15.55	American	Grace Line	360.2	51.6	22.8	New York	Talcahuano	General	1,418	5,776	4,081
Peursum	7	5.55	7	7.38	7	15.10	7	22.40	Dutch	Vinke & Co	280.0	40.0	20.2	New Orleans	Talcahuano	General	1,487	2,713	1,867
Calgarolite	6	20.45	7	8.15	7	16.04	7	18.27	British	Imperial Oil Co	464.0	60.0	21.2	Montreal	Talara	Ballast		8,491	6,096
Bethore	7	2.33	7	8.57	7	17.01	7	18.27	American	Ore Steamship Co	550.3	72.2	25.0	New York	Cruz Grande	Ballast		15,476	11,102
Elveric	7	7.17	7	9.35	7	18.05	7	19.56	British	Bank Line, Ltd	399.6	53.0	23.0	New York	Shanghai	General, oil	6,020	6,277	4,497
K. I. Luckenbach	5	13.58	7	12.40	7	19.21	7	20.40	American	Luckenbach Line	447.0	56.0	25.7	Boston	San Francisco	General	5,800	8,552	6,236
Mongolian Prince	7	19.06	8	6.32	8	14.10	8	15.20	British	Prince Line, Ltd	423.5	56.0	24.0	Hull	Vancouver	General	6,800	6,460	4,735
Ipswich	7	12.30	8	7.32	8	14.57	8	16.30	American	Shawmut Line	400.7	52.2	24.6	Charleston	Portland	General	7,328	6,616	4,614

[1] Launch. [2] Destroyer tender. [3] Motor schooner. [4] Transport. [5] Tug. [6] Steel, cotton, and sulphate of ammonia. [7] Steel, tin plate, and general.

Nitokris	7	18 40	8	7.55	8	15.48	8	16.59	German	Kosmos Line	410.9	50 6	22.7	Hamburg	Guayaquil	General	3,243	6,652	4,704
Munsomo	7	23.39	8	8.45	8	16.47			American	Munsomo Steamship Co	327.2	46.0	19.3	New York	Seattle	General	2,587	3,750	2,728
San Juan	2	17.24	8	8.45	8	16.05	8	21.30	American	Pacific Mail Steamship Co	283.0	37.0	18.4	Cristobal	San Francisco	General	1,373	2,379	1,593
Montpelier	8	1.48	8	9.12	8	17.34	8	18.27	American	Amer. Ship. & Commerce Co	460.0	57.9	26.0	Philadelphia	San Francisco	General	9,000	6,368	4,161
Sabine Sun	7	19 58	8	10.50	8	18.33	8	19.40	American	Sun Steamship Co	429.0	59.2	19.0	Chester	Los Angeles	Ballast		7,898	5,459
Dryden	8	8.22	8	11.05	8	19.33	8	21.22	American	Tampa Interoceanic Co. (S. B.)	434.3	57.7	25 0	New Orleans	Shanghai	General	6,925	7,983	5,882
Patuxent[5]			8	12.55	8	14.38			American	U. S. Navy	156.0	24.0		Cristobal	Gatun				
Nietheroy	8	15.14	9	6.20	9	13.44	10	17 08	British	Royal Mail Steam Packet Co	450.0	58.0	19.0	Newcastle	Seattle	Ballast		8,874	6,558
Steel Voyager	8	15.31	9	7.30	9	15.00	9	16.20	American	U. S. Steel Products Co	395.0	55.0	26.0	Galveston	Yokohama	General	8,200	7,285	5,256
Moorish Prince	8	10.40	9	8.21	9	16.10	9	17.16	British	Prince Line, Ltd	425.5	56 4	26.2	New York	Hongkong	General	6,777	7,629	5,707
Steel Maker	8	13.45	9	8.55	9	17 04	9	18 05	American	U. S. Steel Products Co	396 0	55 0	27.2	Baltimore	Los Angeles	General, steel	8,971	7,285	5,256
Gen. G. W. Goethals	7	6.28	9	9 20	9	17.50	9	20.59	American	Panama Railroad Steamship Line	353.0	48 7	22.5	New York	Guayaquil	General	538	5,125	3,564
Redondo	9	1.10	9	9.15	9	17.58	9	19.18	American	Susquehanna Line, Inc	341.0	48.2	23.0	New Orleans	Seattle	General	5,200	4,419	3,230
Nordlys	9	6.30	9	10.22	9	18.41	9	19.52	Danish	Norton Steamship Co	362.0	51.5	14.0	Norfolk	Tocopilla	Ballast		4,932	3,468
Ares	9	8 47	9	11.10	9	19.07	10	13.50	Dutch.	Royal Netherlands W. I. Mail.	340.0	48.0	20.0	Newcastle	Callao	Coal, coke	4,400	4,385	3,195
Jan Van Nassau	8	1.10	9	11.55	9	19.59	10	6.31	Dutch.	Royal Netherlands W. I. Mail.	346.0	44.0	19.6	London	Corral	General	2,378	3,819	2,632

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Montana	2	22 30	3	7.57	3	15.32	3	15.32	American	Atlantic Transport. Co	419.5	56.5	27.8	San Pedro	Philadelphia	General	8,642	8,696	6,315
Laura C. Hall	2	8.15	3	8 08	3	16.30	5	6.00	British	Pacific Metals Corp	81.0	26.0	10.0	Buenaventura	Cristobal	Gold, platinum	87	132	72
Saint Jean	3	5.00	3	8.57	3	16.50	4	10.40	French	French Line	415.0	50.3	25.0	Valparaiso	Havre	Nitrate, general	6,670	5,849	4,081
Ensley City	3	9 00	3	9.58	3	16.55	3	16.55	American	Isthmian Lines	395.5	55.0	27.4	San Francisco	New York	General	8,147	7,285	5,256
Florence Luckenbach	3	9.00	3	10.45	3	17.46	3	17.46	American	Luckenbach Line	401.8	52 0	24.0	Los Angeles	Mobile	General	6,400	6,002	4,621
Samuel Q. Brown	3	3 00	3	12.44	3	19.07	3	20.45	American	Tidewater Oil Co	424.4	58.2	25.6	San Pedro	New York	Oil	10,000	7,333	5,246
Billy B.[1]			3						American	Ferrari & Brid	24.4	5.4	3.0	Balboa	Cristobal			2	2
Sherman	4	5.00	4	7.47	4	15.37	4	15.37	American	Chile Steamship Co	400.3	45.3	27.2	Antofagasta	New York	Nitrate, copper	6,075	5,037	3,492
Robin Adair	4	7.00	4	8.49	4	16.53	4	16.53	American	Seas Shipping Co	424.8	55.2	25.0	Everett	New York	General	8,200	7,470	5,529
Argosy	4	7.30	4	9 45	4	17.40	4	17 40	American	Wessel & Duval	390.0	54.2	25.0	Caleta Buena	Colon[8]	Nitrate	7,192	6,203	4,280
Baychimo	4	6.00	4	10.35	4	18.10	4	20.00	British	Hudson Bay Co	229.2	36.0	15.0	Eureka	Belfast	Redwood	1,150	1,362	891
Nevadan	4	9.30	4	11.50	4	19 22	4	19.22	American	United American Lines	395.0	55.2	24.0	Tacoma	Philadelphia[8]	General, lumber	6,000	5,671	3,627
Oregon Maru	4	10.30	5	7.16	5	14.52	5	14.52	Japanese.	Kawasaki Dock Yard Co	385.0	51.0	26.1	Iquique	Fayal[8]	Nitrate	7,800	6,251	4,700
Saint Bede	5	5.30	5	7.47	5	16.04	5	17.30	British	Rankin Gilmoure Co	384.9	52.0	22 11	Callao	Liverpool	General	6,564	5,212	3,598
Cambrai	4	16.00	6	6.40	6	13.30	6	13.45	American	U. S. Army	448.0	58.0	25.0	San Francisco	New York	General	(9)		
Stanley	4	23.56	6	7.57	6	15.20	6	22 10	American	Barber Line	401.7	54.8	20.0	Hongkong	New York	General	5,500	6,933	5,187
Gen. O. H. Ernst	4	17.40	6	8.45	6	15.58	9	14.45	American.	Panama Railroad Steamship Line	356.4	45.3	22.0	Guayaquil	New York	General	2,048	4,503	2,764
Standard	5	21.00	6	9.39	6	17.55	6	17.55	American	Standard Oil Co	524.0	69.0	30.0	San Pedro	New York	Oil	(10)	12,171	9,012
Point Judith	6	7.22	6	10.44	6	18.15	7	6.23	American	Pacific Mail Steamship Co	289.0	44.0	21.4	San Francisco	New York	General	2,938	2,895	1,982
Delaware Sun	6	1.00	6	11.40	6	19.28	6	19.28	American	Sun Co	480.3	66.0	27.9	San Pedro	Philadelphia	Oil	13,620	9,402	6,586
Chiton	6	3.00	6	12.40	6	20.32	6	20.32	British	Anglo-Saxon Petroleum Co.	400.3	52.2	25.0	San Pedro	United King[8]	Oil	5,792	6,014	4,107
Mautaro	6	12.00	6	13.56	6	21.30			Peruvian	Peruvian Line	367.3	46.0	23.0	Iloilo	Cristobal	General	3,057	4,838	2,959
Munakres	6	17.50	7	7.45	7	14.18	7	14.18	American	Munson Line	370.0	53.1	23 6	Grays' Harbor.	New York	Lumber	5,500	5.577	4,225

[8] For orders. [9] 477 cubic feet. [10] 120,000 barrels.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Ortega	7	2.00	7	8.20	7	15.58	7	20.20	British	Pacific Steam Navigation Co	465.0	56.0	25.3	Valparaiso	Liverpool	General	5,253	8,345	4,998
York City	7	12.00	7	12.50	7	20.25	8	11.45	British	Readon Smith Line	412.0	55.0	29.0	Vancouver	Falmouth [11]	Wheat	9,000	7,038	5,166
Santa Paula	7	13.00	7	13.58	7	20.56	7	20.56	American	Pacific Mail Steamship Co	404.6	54.0	27.0	Seattle	New York	General	6,966	6,756	4,775
William A. McKenny	7	23.00	8	7.50	8	15.10	8	17.55	American	Crowell & Thurlow	395.0	55.1	26.6	Portland	New York	General, lumber	7,000	6,531	4,528
Hoven	8	0.15	8	8.51	8	16.28	8	16.28	American	Walter & Daly	434.8	56.2	24.0	Port San Luis	Norfolk	Oil	8,900	7,587	5,305
Benjamin Brewster	8	2.00	8	9.40	8	17.48	8	17.48	American	International Petroleum Co	411.6	53.2	26.2	Talara	New York	Oil	8,037	6,177	4,244
Borgestad	8	7.30	8	10.38	8	18.48	8	18.48	Norwegian	Anglo-Mexican Petroleum Co	360.3	51.3	18.0	Valparaiso	Tampico	Ballast		4,905	3,711
Andrea F. Luckenbach	8	16.30	9	7.05	9	15.00	9	15.00	American	Luckenbach Line	496.0	68.2	29.0	Los Angeles	Philadelphia	General, lumber	12,000	11,487	8,762
Bacoi	8	5.15	9	7.53	9	15.14	9	17.10	American	Gillespie Steamship Co	248.0	42.5	16.6	Tacoma	New York	Coconut oil	1,131	1,931	1,323
Acasta	8	18.30	9	9.05	9	16.20	9	18.07	British	Anglo-Saxon Petroleum Co	400.0	52.4	25.3	Los Angeles	Lisbon	Oil	([12])	6,134	4,604
Astronomer	9	2.30	9	9.46	9	17.20	9	17.40	British	T. and J. Harrison	482.7	58.0	28.0	Vancouver	London	General	10,500	8,898	6,334
Willfaro	9	12.00	9	12.53	9	19.50	9	19.50	American	Williams Steamship Co	386.8	52.2	24.0	Seattle	New York	General, lumber	5,902	5,680	4,162

[11] For orders. [12] 48,000 barrels.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
December 3.	Panama	Panama Railroad Steamship Line	New York via Haiti.
December 3.	Atenas	United Fruit Co	New Orleans via Habana.
December 3.	Ulua	United Fruit Co	Port Limon.
December 3.	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.
December 4.	Peron	French Line	Havre via wayports.
December 5.	Toloa	United Fruit Co	New York via Habana.
December 6.	Heredia	United Fruit Co	New Orleans via Habana.
December 6.	San Bruno	United Fruit Co	Boston via Habana.
December 6.	Tivives	United Fruit Co	New York via Kingston.
December 6.	Carrillo	United Fruit Co	Colombian ports.
December 7.	Atenas	United Fruit Co	Bocas del Toro.
December 8.	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
December 8.	Median	Leyland Line	Liverpool via wayports.
December 9.	Canfield	Pan-American Pet. & Trans. Co	Tampico.

*DEPARTURES.

Date.	Vessel.	Line.	For—
December 3.	Ulua	United Fruit Co	New York via Habana.
December 4.	Atenas	United Fruit Co	Bocas del Toro.
December 5.	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
December 6.	Cristobal	Panama Railroad Steamship Line	Norfolk.
December 6.	San Bruno	United Fruit Co	Boston via Port Limon.
December 6.	Toloa	United Fruit Co	New York via wayports.
December 6.	Heredia	United Fruit Co	New Orleans via wayports.
December 7.	Tivives	United Fruit Co	Colombian ports.
December 7.	Carrillo	United Fruit Co	New York via Kingston.
December 7.	Atenas	United Fruit Co	New Orleans.
December 8.	Peron	French Line	Havre via wayports.
December 8.	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.
December 9.	Panama	Panama Railroad Steamship Line	New York via Haiti.
December 9.	Median	Leyland Line	Galveston.

PORT OF BALBOA.

December 3.	Rosana	Alberto Fait & Co	Punta Arenas, C. R.	December 5.	Darien	Henry Obarrio & Co	Buenaventura.
December 6.	Del Rosa	General Steamship Corp	Seattle.	December 6.	Del Rosa	General Steamship Corp	Valparaiso.
December 6.	San Joaquin	W. Wilhelmsen	Los Angeles.	December 7.	Rosana	Alberto Fait & Co	Punta Arenas, C. R.
				December 8.	San Joaquin	W. Wilhelmsen	Los Angeles.

* Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in November, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States coastwise:							
United States	43	181,513	225,442	277,034	173,584	$199,628.57	164,680
From east coast of United States to Far East:							
Japanese	8	31,527	37,066	47,273	30,775	39,139.95	38,119
British	5	20,059	26,166	31,984	20,196	25,073.75	28,586
United States	4	18,631	24,335	28,218	18,508	23,288.75	28,632
Panaman	1	3,509	3,559	4,730	3,093	4,270.80	6,000
Norwegian	1	2,338	2,924	3,586	2,345	2,922.50	900
Totals	19	76,064	94,050	115,791	74,917	94,695 75	102,237
From east coast of United States to west coast of South America:							
United States	9	29,549	36,634	50,096	29,298	30,429.81	8,218
British	5	20,234	24,706	33,607	20,401	20,309.81	3,313
Danish	2	4,907	5,354	6,841	4,206	4,755.84	1,250
Norwegian	1	2,110	2,565	3,494	2,158	2,637.50	1,300
Totals	17	56,800	69,259	94,038	56,063	58,132.97	14,081
From Europe to west coast of South America:							
British	6	17,532	25,464	28,151	17,589	20,600.84	19,211
German	4	10,812	15,538	18,000	10,745	13,515.00	13,840
Dutch	3	8,779	14,111	14,256	8,760	10,973.75	10,223
Italian	1	3,306	3,974	5,488	3,276	4,132.50	936
Totals	14	40,429	59,087	65,895	40,370	49,222.09	44,210
From Europe to west coast of United States:							
British	5	20,429	23,423	28,282	17,601	19,424.41	5,094
Norwegian	1	4,509	5,637	7,116	4,493	5,636.25	9,850
Danish	1	4,207	5,286	5,296	3,325	5,258.75	5,179
Swedish	1	3,089	3,900	3,805	2,833	3,861.25	4,515
Totals	8	32,234	38,246	44,499	28,252	34,180.66	24,638
From Europe to Australasia:							
British	6	40,339	48,828	58,277	37,899	50,288.30	45,119
From Cristobal, C. Z., to west coast of South America:							
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	1,346
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	1,797
British	1	549	884	1,041	615	686.25	646
Totals	6	7,334	13,964	20,020	10,797	9,167.50	3,789
From east coast of United States to west coast of Canada:							
United States	3	10,646	15,068	17,295	10,614	13,307.50	20,564
British	1	4,396	4,392	4,641	2,927	5,270.40	.....
Norwegian	1	4,043	5,051	6,565	4,046	5,053.75	6,040
Totals	5	19,085	24,511	28,501	17,587	23,631.65	26,604
From Europe to west coast of Canada:							
British	2	6,450	8,020	10,566	6,973	6,878.76	5,558
United States	1	6,498	6,970	8,534	6,498	8,122.50	7,100
Dutch	1	4,863	6,066	7,655	4,799	6,078.75	3,100
French	1	3,638	4,170	5,796	3,689	4,547.50	1,160
Totals	5	21,449	25,226	32,551	21,959	25,627.51	16,918
From east coast of United States to Australasia:							
British	4	15,099	20,106	24,090	15,123	18,873.75	21,986
From east coast of Mexico to west coast of South America:							
British	2	8,305	9,324	13,560	8,218	10,381.25	17,205
Norwegian	1	3,324	3,711	4,279	2,652	4,155.00	4,800
Totals	3	11,629	13,035	17,839	10,870	14,536.25	22,005
From West Indies to west coast of South America:							
United States	2	7,298	8,488	11,900	7,354	6,111.36	.....
Panaman	1	3,323	3,723	5,454	3,412	4,153.75	.....
Totals	3	10,621	12,211	17,354	10,766	10,265 11	.....

ATLANTIC TO PACIFIC.—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
Foreign ships in ballast between the United States coastwise ports:							
Japanese	1	5,174	5,979	8,230	5,115	$4,304.88	..
Panaman	1	3,942	4,428	5,621	3,542	4,927.50	....
Totals	2	9,116	10,407	13,851	8,657	9,232.38	....
From Cristobal, C. Z., to west coast of Central America:							
British	2	1,286	1,441	2,298	1,304	1,607.50	1,884
Colombian coastwise:							
United States	1	334	335	615	373	402.00	470
British	1	63	72	111	100	78.75	50
Totals	2	397	407	726	473	480.75	520
Local—Cristobal to Balboa, C. Z.:							
Panaman	2	43	81	289	43	51 00	.....
On tourist cruise around the world:							
British	1	10,590	16,037	19,680	11,829	13,237.50	....
From east coast of United States to Balboa, C. Z.:							
United States	1	4,358	5,305	7,071	4,307	5,447.50	3,636
From east coast of South America to Far East:							
Japanese	1	3,645	4,230	5,761	3,556	4,556.25	1,907
From east coast of Canada to Australasia:							
British	1	3,528	4,070	5,758	3,549	4,410.00	2,060
From east coast of South America to west coast of Canada:							
British	1	3,107	3,697	4,891	3,155	3,883.75	2,754
From Europe to west coast of Central America:							
German	1	2,277	3,117	3,810	2,355	2,846 25	1,150
From Cristobal, C. Z., to west coast of the United States:							
United States	1	1,862	2,206	3,169	1,862	2,327.50	1,200
Totals, November, 1922	148	552,805	694,963	863,193	539,277	636,330.48	501,378
Totals, October, 1922	159	566,856	712,452	899,040	565,986	657,837.91	565,075
Totals, November, 1921	123	431,267	539,017	671,741	429,608	528,209.07	386,681

PACIFIC TO ATLANTIC.

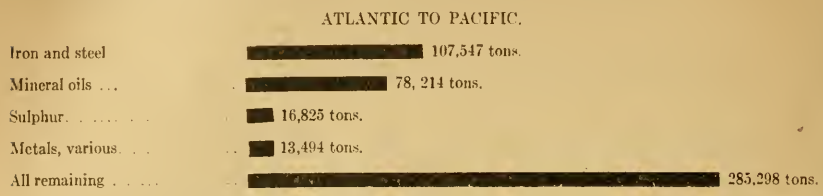
United States coastwise:							
United States	31	125,714	162,615	199,856	123,947	157,142.50	263,422
From west coast of South America to east coast of the United States:							
United States	8	30,596	38,051	50,977	30,784	38,245.00	69,510
Norwegian	7	23,242	28,083	36,445	23,220	28,806.55	52,065
British	6	20,559	24,560	33,293	20,420	24,313.61	32,315
Dutch	2	3,187	3,388	4,016	2,345	3,890.40	6,260
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,080
Danish	1	2,924	3,180	3,270	2,012	3,655.00	4,927
Totals	25	83,647	101,309	133,177	82,011	102,834.31	173,157
From west coast of South America to Europe:							
British	9	31,068	35,705	44,481	28,087	38,484.15	57,569
German	3	10,834	12,991	17,386	10,995	13,542.50	18,798
Danish	3	9,885	14,350	17,064	11,542	12,356.25	25,129
Belgium	2	7,956	9,536	10,673	6,743	9,945.00	16,452
Dutch	2	6,996	11,046	11,267	7,143	8,745.00	16,560
Italian	1	3,303	4,013	5,663	3,458	4,128.75	6,715
Greek	1	2,184	3,291	3,560	2,167	2,730.00	6,158
Spanish	1	1,896	2,310	3,811	2,784	2,370 00	4,859
United States	1	1,750	2,010	2,942	1,699	2,187.50	2,130
Peruvian	1	1,483	1,529	1,866	1,169	1,834.80	2,580
Totals	24	77,355	96,781	118,713	75,787	96,323.95	156,950
From west coast of United States to Europe:							
British	8	31,725	38,491	47,837	30,245	39,500.45	53,393
United States	2	8,939	10,916	14,388	8,932	11,173.75	17,611
Norwegian	2	6,289	9,196	10,195	6,377	7,861.25	14,329
Japanese	1	5,299	5,339	7,144	5,199	6,406.80	9,232
Swedish	1	4,356	5,661	5,642	4,320	5,445.00	7,650
Totals	14	56,608	69,603	85,206	55,073	70,387.25	102,215

PACIFIC TO ATLANTIC—Continued.

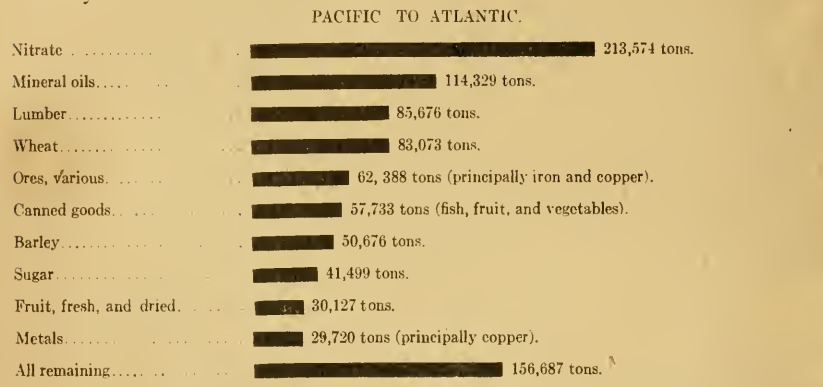
Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of Canada to Europe:							
British	6	26,164	31,866	38,463	24,287	$32,705.00	46,549
French	2	7,485	10,004	12,177	7,467	9,356.25	15,561
Dutch	1	5,776	7,551	9,399	5,814	7,220.00	9,861
Japanese	1	4,081	5,077	6,586	4,038	5,101.25	8,447
Swedish	1	3,100	4,013	3,764	2,852	3,875.00	5,068
Danish	1	2,985	4,618	5,973	4,585	3,731.25	7,180
United States	1	3,749	4,686	6,081	3,749	4,686.25	7,052
Totals	13	53,340	67,815	82,443	52,792	66,675.00	99,718
From Far East to east coast of the United States:							
United States	4	17,608	24,063	28,094	17,521	20,799.87	18,544
Japanese	2	8,082	9,997	12,841	7,930	10,102.50	9,306
Norwegian	1	4,105	4,730	6,583	4,119	5,131.25	7,360
British	1	3,454	4,358	5,507	3,495	4,317.50	7,500
Totals	8	33,249	43,148	53,025	33,065	40,351.12	42,710
From west coast of South America to Cristobal, C. Z.:							
Peruvian	3	3,689	7,742	12,452	6,277	4,623.75	4,832
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	382
British	2	612	956	1,152	715	765.00	807
Totals	7	7,397	14,036	20,131	10,897	9,246.25	6,021
From west coast of South America to east coast of Mexico:							
British	3	12,189	13,719	20,254	11,915	9,877.68	
From Australasia to Europe:							
British	2	8,229	9,436	12,090	7,809	10,286.25	8,684
Swedish	1	2,748	4,536	4,521	3,424	3,435.00	5,216
Totals	3	10,977	13,972	16,611	11,233	13,721.25	13,900
From west coast of Canada to east coast of United States:							
United States	2	7,326	9,438	11,881	7,321	9,157.50	12,772
Norwegian	1	4,107	4,733	6,583	4,121	5,133.75	6,418
Italian	1	4,025	4,049	5,400	3,819	5,031.25	4,054
Totals	4	15,458	18,220	23,864	15,261	19,322.50	23,244
From west coast of Central America to Cristobal, C. Z.:							
British	3	1,924	2,147	3,468	1,958	2,105.00	918
From Australasia to east coast of United States:							
United States	1	4,445	4,415	5,838	4,493	5,298.00	1,600
British	1	3,513	4,160	5,454	3,349	4,391.25	4,500
Totals	2	7,958	8,575	11,292	7,833	9,689.25	6,100
From west coast of South America to West Indies:							
United States	2	7,298	8,488	11,900	7,354	9,122.50	15,138
From west coast of Central America to Europe:							
German	2	4,060	6,041	6,800	4,112	5,075.00	319
From west coast of United States to east coast of Mexico:							
United States	1	1,400	1,504	1,994	1,400	1,750.00	1,826
From west coast of United States to east coast of South America:							
United States	1	3,537	4,901	5,657	3,536	4,421.25	6,443
From west coast of United States to North America:							
British	1	3,217	4,073	5,193	3,222	4,021.25	7,396
From west coast of South America to North Africa:							
British	1	2,730	3,164	3,540	2,298	3,412.50	5,538
From west coast of United States to Cristobal, C. Z.:							
United States	1	1,862	2,206	3,169	1,862	2,327.50	467
Totals, November, 1922	146	509,920	642,317	806,293	505,556	628,106.06	925,482
Totals, October, 1922	135	482,492	597,940	753,395	476,980	597,670.09	880,788
Totals, November, 1921	99	322,430	403,394	512,416	323,278	394,839.63	468,759

Principal Commodities Through the Panama Canal During November.

In the following graphs are shown the principal commodities carried by vessels transiting the Canal during the past month:



Much of the cargo passing from the Atlantic to the Pacific consists of small shipments of miscellaneous manufactured goods, difficult to classify.



Nitrate shipments from South American west coast ports through the Canal totaled 213,574 tons, and marked a sharp revival of this trade, which has been depressed for many months.

Large Shipment of Refrigerated Apples.

The steamship *Tudorstar*, transited the Canal on December 1, en route from San Francisco to Glasgow, with 1,500 tons of refrigerated apples. This is believed to be the largest shipment of apples carried by any vessel transiting the Canal to date.

The *Tudorstar* has a total of 13 insulated cargo chambers with a combined refrigerated capacity of 366,990 cubic feet.

Other items of cargo carried by the *Tudorstar* were 1,500 tons of dried fruits and 2,000 tons of wheat, also destined for discharge at Glasgow.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama"; in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., December 20, 1922. No. 19.

Commercial Traffic for First Half of December.

From December 1 to close of business December 15, 1922, a total of 154 commercial vessels made the transit of the Canal, or an average of 10.27 vessels per day. Of the above, 87 were from Atlantic to Pacific and 67 from Pacific to Atlantic.

Tolls on the above totaled $691,626.01, of which $369,776.15 was paid by vessels transiting the Canal from the Atlantic and $321,849.46 by vessels from the Pacific. The average daily tolls were $46,108.40, which, if maintained for the remaining 16 days of the month, would bring December tolls up to $1,429,360.40, or considerably in excess of last month's record tolls of $1,264,436.54.

Tolls for the first 11 months of the present calendar year total $11,260,837.65. The former record for tolls for any calendar or fiscal year was $11,276,889.91 for the fiscal year 1921. Tolls for the present calendar year will therefore exceed those of any previous fiscal or calendar year by the amount of the December tolls less approximately $16,000.

The greatest number of commercial vessels transiting the Canal during any previous fiscal or calendar year was likewise in the fiscal year 1921, when 2,892 vessels passed through the Canal. Up to November 30 of the present calendar year 2,693 commercial vessels transited the Canal. The December transits up to the close of business December 15 having totaled 154, it will be seen that the number of commercial vessels transiting the Canal during the calendar year 1922 will likewise exceed those of any previous fiscal or calendar year.

Supplement No. 6.—Tariff No. 6.—Agency Fees.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., December 9, 1922.

ITEM 47. AGENCY FEES.

(In effect since June 1, 1922.)

1. The Panama Railroad Company, through the Receiving and Forwarding Agent, Cristobal, is prepared to act as agent for any vessel desiring to transit the Canal, when such vessel has no other local agent to look after its interests.

2. The agency fee is $25 per vessel. This fee covers the services ordinarily performed by a local agent and includes the expense of boarding the vessel to ascertain her requirements; arranging for purchasing fuel and other supplies; sending cablegrams and mails; securing bills of health; having consular documents visaed; and similar service.

3. No fee is charged if the vessel requires no service other than the procurement of fuel or supplies from The Panama Canal or Panama Railroad Company.

4. The handling of agency work for vessels making Canal Zone ports a regular stop for handling cargo or passengers, and requiring soliciting of cargo or passengers, or handling of claims, will be subject to special arrangements.

5. If funds are advanced by the Panama Railroad to cover a vessel's expenses, the charge is 2½ per cent.

M. L. WALKER,
Acting Governor, The Panama Canal.
Second Vice President, Panama Railroad Company.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, November, 1922.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.							Asia.					Australasia.					
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.[1]	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Far East.	New Zealand.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																								
United States—																								
North Atlantic ports	4,913	679	762	2,807	3,020	12,181	141,669		664	4,940	358		147,631	20,957	18,312	5,831	4,037	49,137	6,303	11,490	17,793	4,308	231,050	46.2
South Atlantic ports			549			549	1,375			1,100			2,475	6,150	2,846			8,996		4,193	4,193		16,213	3.2
Gulf ports					1,080	1,080	39,719		2,800			3,676	46,195	19,557	25,237			44,794					92,069	18.4
Totals, United States	4,913	679	1,311	2,807	4,100	13,810	182,763		3,464	6,040	358	3,676	196,301	46,664	46,395	5,831	4,037	102,927	6,303	15,683	21,986	4,308	339,332	67.8
East coast of Mexico	22,005					22,005																	22,005	4.4
Cristobal, C. Z.[2]	189	381	465	471	2,253	3,750	430	600			2,476	8	3,514										7,264	1.4
West Indies		375				375																	375	0.1
East coast of Canada																			1,030	1,030	2,060		2,060	0.4
Totals, North America	27,098	1,435	1,776	3,278	6,353	39,940	183,193	600	3,464	6,040	2,834	3,684	199,815	46,664	46,395	5,831	4,037	102,927	7,333	16,713	24,046	4,308	371,036	74.1
Europe:																								
Belgium	2,059		86	1,959		4,104	13,498						13,498										17,602	3.5
British Isles	12,259		295	4,364	600	17,518	8,050		3,560	300			11,910						31,321	13,798	45,119		74,547	14.9
France							765		275				1,040										1,040	0.2
Germany	6,052		1,593	2,217		9,862	2,876				1,150		4,026										13,888	2.8
Holland			2,035			2,035	453						453										2,488	0.5
Italy	285		1	245		531																	531	0.1
Norway and Sweden							4,596					111	4,707										4,707	0.9
Europe[1]	1,889		94	1,795	5,997	9,775	1,079						1,079										10,854	2.1
Spain				30		30																	30	
Totals, Europe	22,544		4,104	10,610	6,597	43,855	31,317		3,835	300	1,150	111	36,713						31,321	13,798	45,119		125,687	25.0
East Coast, South America		490				490	1,275		2,754				4,029	136				136					4,655	0.9
Grand totals	49,642	1,925	5,880	13,888	12,950	84,285	215,785	600	10,053	6,340	3,984	3,795	240,557	46,800	46,395	5,831	4,037	103,063	38,654	30,511	69,165	4,308	501,378	100.0
Per cent of total cargo:																								
November, 1922	9.9	0.4	1.1	2.8	2.6	16.8	43.1	0.1	2.0	1.3	0.8	0.7	48.0	9.4	9.3	1.1	0.8	20.6	7.7	6.0	13.7	0.9	100.0	
October, 1922	8.6	0.4	0.2	2.3	8.4	19.9	38.8	0.1	0.9	4.0	0.6		44.4	7.7	3.6		8.2	19.5	3.8	4.2	15.3	0.9		
November, 1921	2.8	0.2	0.2	3.8	2.6	9.6	34.6		0.5		0.8	2.3	38.2	17.7	6.5	0.9	6.8	31.9	11.1	1.3	18.2	2.1		

[1] General cargo not routed so as to allow segregation among various ports.

[2] Includes both local and transfer cargo.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, November, 1922.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. East coast of Canada.	North America. West Indies.	North America. East coast of Mexico.	North America. Cristobal, C. Z.[2]	North America. Total, North America.	Europe. Belgium.	Europe. British Isles.	Europe. Denmark.	Europe. France.	Europe. Germany.	Europe. Holland.	Europe. Italy.	Europe. Spain.	Europe. Norway and Sweden.	Europe. Europe.[1]	Europe. Total, Europe.	East coast of South America.	North Africa.	Grand totals.	Per cent of total cargo.
South America:																								
Chile	83,866	42,140	37,914	163,920				3	163,923	6,910	14,695	785	5,092	9,282	11,731	13,967	22,317		32,115	116,894		5,538	286,355	31.0
Colombia								257	257														257	
Ecuador	434			434				2,340	2,774		92			89			223		315	719	96		3,589	0.4
Peru	3,871			3,871	3	15,138		3,117	22,129		23,589		6,600	682	9				8,308	39,188			61,317	6.6
West coast of S. America[1]	4,957			4,957				476	5,433										53	53			5,486	0.6
Totals, South America	93,128	42,140	37,914	173,182	3	15,138		6,193	194,516	6,910	38,376	785	11,692	10,053	11,740	13,967	22,540		40,791	156,854	96	5,538	357,004	38.6
North America:																								
West coast, United States	251,511	11,699	6,493	269,703		1,063	1,826	340	272,932	1,232	96,434	21	4,203	1,934	1,950	7,301		6,918	47,849	167,842	5,731	7,396	453,901	49.0
West coast of Canada	12,853			12,853					12,853	160	7,686		2,603			8,447		1,250	8,517	28,663			41,516	4.4
West coast, Cen. America	80			80				1,146	1,226					319						319			1,545	0.2
West coast, N. America[1]											5,228									5,228			5,228	0.6
Totals, North America	264,444	11,699	6,493	282,636		1,063	1,826	1,486	287,011	1,392	109,348	21	6,806	2,253	1,950	15,748		8,168	56,366	202,052	5,731	7,396	502,190	54.2
Asia:																								
China	11,025		975	12,000		2,085		868	14,953														14,953	1.6
Japan	153			153		508			661														661	0.1
Philippines	6,761			6,761					6,761														6,761	0.7
Far East[1]	20,201			20,201					20,201														20,201	2.2
Totals, Asia	38,140		975	39,115		2,593		868	42,576														42,576	4.6
Australasia:																								
Australia	1,600			1,600					1,600														1,600	0.2
New Zealand											4,952									4,952			4,952	0.5
Australasia[1]	4,500			4,500					4,500		3,732								5,216	8,948			13,448	1.5
Totals, Australasia	6,100			6,100					6,100		8,684								5,216	13,900			20,000	2.2
Hawaii	3,515	197		3,712					3,712														3,712	0.4
Grand totals	405,327	54,036	45,382	504,745	3	18,794	1,826	8,547	533,915	8,302	156,408	806	18,498	12,306	13,690	29,715	22,540	8,168	102,373	372,806	5,827	12,934	925,482	100.0
Per cent of total cargo:																								
November, 1922	43.8	5.9	4.9	54.6		2.0	0.2	0.9	57.7	0.9	16.9	0.1	2.0	1.4	1.5	3.2	2.4	0.9	11.0	40.3	0.6	1.4	100.0	
October, 1922	41.8	5.6	2.4	49.8	1.6	2.2		1.3	54.9	1.1	18.9		1.4	0.7		2.7	0.6	1.1	15.3	41.8	0.1	3.2		
November, 1921	36.9	0.8	0.7	38.4		1.1		1.8	41.3	2.4	18.7	1.4	4.8	4.8	1.0	6.9	1.6	0.6	16.4	58.6	0.1			

[1] General cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transfer cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 16, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Republic	9	21.45	10	6.40	10	14.07	10	15.10	American	Chile Steamship Co	345.1	49.1	18.4	New York	Antofagasta	General	1,740	4,393	3,006
Irish Monarch	10	0.10	10	7.30	10	14.58	10	16.18	British	Raeburn and Verel	385.4	48.7	15.6	Boston	Iquique	Ballast		4,662	3.397
Neponset	10	1.51	10	8.12	10	15.53	10	17.25	American	U. S. Shipping Board	434.3	57.7	26.6	New York	Seattle	General	7,145	7,893	5,621
Ebro	9	16.53	10	9.18	10	16.40	10	18.35	British	Pacific Steam Navigation Co	450.0	57.0	24.0	New York	Valparaiso	General	1,858	9,151	6,227
Missourian	10	9.15	10	10.00	10	17.39	10	16.42	American	American-Hawaiian Line	445.1	59.8	23.6	New York	Seattle	General	8,000	8,567	6,020
Acajutla	1-30	14.40	10	12.42	10	18.30	10	21 43	British	Pacific Steam Navigation Co	215.7	33.5	15.0	Cristobal	Champerico	General	803	1,273	706
Delaware	10	12.20	11	6.25	11	13.43	11	17.05	British	Anglo-American Oil Co	345.0	44.3	22.10	London	San Francisco	Ballast		3,968	2,512
Venezuela	8	8.05	11	12.03	11	18.00	12	1.32	Italian	Italian Line	437.2	51.6	23.6	Genoa	Valparaiso	General	1,016	7,596	5,011
Lochkatrine [1]	10	17.35	11	12.35	11	19.07	11	20.01	British	Royal Mail Steam Packet Co	485.4	62.3	22.8	Hamburg	Vancouver	General	5,410	10,802	7,595
Conus	11	14.38	12	6.35	12	13.59	12	18.19	British	Anglo-Saxon Petroleum Co	400.0	52.0	19.0	Malta	Los Angeles	Ballast		6,047	4,137
Caprella	11	16.00	12	7.30	12	14.48	12	19.05	British	Anglo-Saxon Petroleum Co	400.0	52.0	21.0	Rouen	Los Angeles	Ballast		6,063	4,087
Santa Rosalia	11	22.55	12	8.19	12	15.37	12	16.50	American	U. S. Steel Products Co	406.0	52.6	20.0	New York	Talcahnano	General	3,754	5,900	4,443
Santa Eulalia	12	4.03	12	8.55	12	17.25	12	23.12	American	American & Cuban Line	251.0	43.6	25.0	Baltimore	San Francisco	General	3,264	2,823	1,730
Strathlorne	12	18.18	13	6.25	13	13.49	13	15.15	British	Strathlorne Steamship Co	376.0	52.2	16.6	Charleston	Port Townsend	Ballast		4,799	3,625
Antonio Lopez	11	13.14	13	7.09	13	14.49			Spanish	Spanish Line	430.0	50.0	22.11	Barcelona	Balboa [5]	General	623½		
Sciota [2]			13	7.45	13	14.34	13		American	U. S. Navy	155.0	30.0		Cristobal	Balboa				
Plum Branch	13	2.44	13	7.55	13	15.46	13	16.43	British	Nautilus Steamship Co	396.0	53.9	20.0	Glasgow	Valparaiso	Patent fuel, gen.	3,545	5,761	3,881
Byron D. Benson	13	6.15	13	8.18	13	17.17	13	18.12	American	Tidewater Oil Co	465.4	60.2	20.0	New York	Los Angeles	Ballast		8,546	6,095
City of Bagdad	13	6.46	13	9.27	13	18.10	13	19.27	British	Ellerman & Bucknell Line	470.0	58.0	22.0	New York	Yokohama	General	5,236	8,497	5,984
Apurimac [3]	13	7.23	13	10.30	14	14.26	15	13.38	Peruvian	Peruvian Line	382.0	48.2	24.0	Liverpool	Callao	Coal	4,818¾	4,867	3,544
Lord Ormonde	11	13.47	13	11.00	13	19.05	13	20.23	British	Lord Ormonde Steamship Co	360.0	46.0	14.0	New York	Buenaventura	General	282	4,563	3,406
Coahuila [4]	7	20.43	13	11.10	13	19.01	13	20.10	Mexican	Mexican Government	305 0	45.0	13.10	Trinidad	Salina Cruz			3,105	2,292
Huanchaco	11	14.27	13	11.46	13	19.55	13	21.10	British	Pacific Steam Navigation Co	390.0	50.0	24.3	Hull	Corral	General	4,225	5,905	4,391
Orinoco	13	9.08	13	12.10	13	20.34	13	21.30	American	Orinoco Steamship Co	376.0	52.0	19.10	New York	Los Angeles	General	4,400	5,455	3,902
Homestead	13	13.32	13	13.35	13	21.16	13	22.13	American	N. Atl. & West. S. S. Co. (S. B.)	395.5	55.0	20.6	Philadelphia	Los Angeles	General	4,114	7,285	5,256
Canadian Planter	13	21.12	14	8.45	14	16.02	14	17.15	British	Canadian Government	400.3	52.0	24.6	Montreal	Brisbane	General	7,000	5,842	4,092
Mantaro	6	21.30	14	11.45	14	21.15	15	11.52	Peruvian	Peruvian Line	367.3	46.0	16.8	Cristobal	Callao	General	1,258	4,838	2,959
William Campion	14	17.30	15	6.33	15	14.51	15	16.15	American	Garland Steamship Corp	384.4	51.2	26.2	New Orleans	Los Angeles	General	7,021	6,327	4,433
Ecuador	14	13.55	15	7.16	15	15.21	16	1 20	American	Pacific Mail Steamship Co	380.0	48.7	21.11	New York	San Francisco	General	3,700	5,926	4,178
Walter A. Luckenbach	15	9.40	15	10.10	15	17.26	15	18.25	American	Luckenbach Line	446.5	56.1	26.0	New York	Los Angeles	General	6,500	8,785	6,567
Targis	15	9.20	15	11.08	15	18.58	16	11.25	German	Roland Line	264.5	42.3	16.0	Hamburg	Puntarenas	General	1,610	2,174	1,320
City of Manila	14	11.42	15	12.55	15	20.00	15	21.24	British	Ellerman & Bucknell Line	475.0	58 0	24.0	New York	Brisbane	General	6,791	9,677	7,504
Ruapehu	16	3.24	16	9.20	16	16.14	17	1 11	British	New Zealand Shipping Co	457.3	58.0	24 0	London	Wellington	General	3,609	9,106	6,855

[1] Motor ship. [2] Tug. [3] Ex *Paita*. [4] Transport. [5] For repairs.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Argonne	8	11.00	10	9.30	10	16.48	11	0.10	American	U. S. Navy	448.0	58.0	22.0	San Francisco	New York	Govt. supplies	253			
Colombia	9	14.20	10	10.30	10	18.07	11	12.00	American	Pacific Mail Steamship Co	380.0	48.7	25.0	San Francisco	New York	General	3,262	6,015	4,281	
Pyro	8	11.30	11	7.06	11	13.40	11	17.00	American	U. S. Navy	483.0	60.1	29.0	San Diego	Hampton R'ds	Navy stores	26			
Santa Luisa	11	6.30	11	9.01	11	15.31	11	20.15	American	Grace Line	360.2	51.6	22.7	Talcahuano	New York	Nitrate, copper	3,364	5,694	3,975	
Alvarado	11	7.30	11	9.40	11	16.40	12	10.00	British	Pacific Steam Navigation Co	303.0	43.0	19.0	Guayaquil	New York	General	1,847	2,844	1,748	
Steel Engineer	11	9.00	11	10.41	11	18.12	12	8.05	American	U. S. Steel Products Co	424.2	56.2	25.11	Portland	London	General	8,235	7,611	5,450	
Cardiganshire	9	13.30	11	13.10	11	21.04	11	21.04	British	Royal Mail Steam Packet Co	500.0	62.4	29.6	Vancouver	London	General	9,688	11,420	8,385	
Deerfield	12	2.30	12	7.39	12	14.50	12	14.50	American	Elder Steel Steamship Co	434.3	57.7	23.6	Seattle	Baltimore	General	4,593	7,893	5,647	
William Rockefeller	12	9.10	12	10.09	12	17.53	12	17.53	American	Standard Oil Co	554.9	75.3	32.3	Los Angeles	New York	Oil	(10)	14,785	10,313	
Robert E. Hopkins	12	8.15	12	11.29	12	19.05	12	19.05	American	Tidewater Oil Co	424.4	58.2	27.0	San Pedro	New York	Oil	10,205	7,333	5,244	
Edgemoor	9	15.30	12	12.49	12	20.08	12	20.08	American	U. S. Army	409.6	54.2	19.0	San Francisco	Brooklyn	Hay and stores				
Benmohr	12	11.45	12	13.28	12	21.40	12	23.50	British	Ben Line	390.3	52.2	23.0	Portland	Newport News	Wheat	6,636	5,203	3,899	
Camilla Gilbert	12	9.30	12	14.29	12	22.16	12	22.16	Norwegian	Kerr Line	399.5	53.0	22.0	Vancouver	New York	Lumber	(11)	6,199	4,513	
Culebra[6]			12	8.20					American	Dredging Div., Panama Canal	288.0	47.6	25.0	Balboa	Miraflores					
Dakotan	13	9.13	13	10.02	13	17.02	13	17.02	American	United American Lines	407.7	53.7	28.0	Los Angeles	New York	General	8,233	7,156	5,068	
Balboa	11	4.57	13	10.56	13	18.30			American	Stone & Yard	190.0	29.1	14.6	Esmeraldas	Pto. Colombia	General	57	737	335	
Essequibo	13	13.04	13	15.08	13	21.39	14	22.50	British	Pacific Steam Navigation Co	450.0	58.0	25.2	Coronel	New York	General	4,178	9,099	6,117	
Chifuku Maru	14	2.00	14	8.10	14	15.32	15	9.52	Japanese	T. Tamura	385.0	51.0	25.0	Vancouver	Europe	Wheat	7,313	5,119	4,400	
Laurel Branch	14	8.00	14	9.07	14	17.00	14	19.40	British	F. and W. Ritson	360.2	46.0	23.0	Mejillones	Liverpool	General	5,189	4,182	3,047	
G. Harrison Smith	13	17.00	14	11.59	15	10.00	15	10.00	British	International Petroleum Co	550.0	72.0	34.10	Cruz Grande	New York	Iron ore	20,000	15,476	11,102	
Hagelsberg	6	22.30	15	7.06	15	16.22			British	F. D. Eberhardt	340.1	45.1	23.6	Ocean Island	United King[9]	Phosphate	5,600	4,653	3,379	
Agwistar	15	3.00	15	7.58	15	14.45	15	14.45	American	New York & Cuban Mail	370.0	53.1	24.6	Seattle	Philadelphia	General, lumber	6,060	5,523	4,203	
John D. Archbold	15	1.30	15	8.40	15	16.55	15	17.30	American	Standard Oil Co	554.9	75.3	31.0	Los Angeles	New York	Oil	20,024	14,785	10,313	
Indian City	15	6.00	15	9.13	15	17.15	15	17.15	British	St. Just Steamship Co	411.7	54.5	25.0	Vancouver	Portland	Lumber	7,500	6,512	4,665	
Grace Dollar	15	1.00	15	12.46	15	19.55	15	19.55	British	Dollar Line	412.4	55.8	26.0	Vancouver	New York	Lumber, general	8,231	7,118	5,196	
Havre Maru	15	13.00	15	14.15	15	22.08	15	22.08	Japanese	Osaka Shosen Kaisha	407.3	50.10	24.0	Singapore	New York	General	7,350	6,234	4,496	
O-147			15	14.45	15	22.06			American	U. S. Navy	175.0	16.4		Balboa	Cristobal					
Ruahine	15	5.00	16	6.59	16	14.07	16	19.30	British	New Zealand Shipping Co	480.6	69.3	27.0	Auckland	London	General	5,691	11,027	8,188	
Mineola	15	21.00	16	8.55	16	15.38	16	20.50	American	Grace Line	298.6	40.0	18.0	Salaverry	New York	General	2,114	2,335	1,805	
Sciota[8]			16	9.05	16	15.20	18	7.50	American	U. S. Navy	135.0	30.0		Balboa	Cristobal					
Marore	16	9.20	16	12.20	17	10.00	17	11.05	American	Ore Steamship Corp	550.3	72.2	32.6	Cruz Grande	Baltimore	Iron ore	20,000	15,551	4,297	
Ucayali	16	6.30	16	14.43	16	21.58			Peruvian	Peruvian Line	374.7	46.3	18.9	Callao	Cristobal	General	1,383	4,466	2,405	

[6] Dredge. [7] Submarine. [8] Tug. [9] For orders. [10] 144,500 barrels. [11] 4,200,000 feet, B. M. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
Dec. 10	Santa Marta	United Fruit Co	New Orleans via Habana.	Dec. 11	Santa Marta	United Fruit Co	Bocas del Toro.
Dec. 12	Calamares	United Fruit Co	New York via Habana.	Dec. 11	C. A. Canfield	Pan.-American Pet. & Transp. Co.	Tampico.
Dec. 12	San Blas	United Fruit Co	Boston via Habana.	Dec. 11	Albaro	Italian Line	Genoa, via wayports.

Continued on page 242, column 2.

Shipments of Bananas Up West Coast.

What promises to develop into a new trade opening for Isthmian products, has been inaugurated by experimental shipments of local bananas under refrigeration to west coast ports of the United States.

The steamer *Moerdyk*, of the Holland-American Line, sailing from Cristobal on October 31, loaded a few thousand bunches of local bananas for discharge at Los Angeles and San Francisco. The shipment was reported in prime condition for delivery upon the vessel's arrival at San Francisco.

Bananas for west coast consumption have heretofore been shipped to the Gulf or Atlantic ports of the United States and then forwarded by rail in refrigerated cars. The new service promises not only to expedite delivery but to reduce transportation charges as well.

Most of the refrigerator steamers carry full cargoes of refrigerated products from the west coast through the Canal but on the return trip to the west coast carry general cargoes and have available refrigerated space for bananas or other local products.

Free Medical Advice by Radio to Ships at Sea.

In February last the United States Bureau of the Public Health Service announced that arrangements had been made with the Radio Corporation of America, whereby the Public Health Service would furnish free medical advice to ships at sea through coastal stations of the Corporation at Chatham, Mass., Siasconset, Mass., New York City (Bush Terminal), Cape May, N. J., and San Francisco, Cal.

It was expected that requests for advice would in most instances be made by vessels not carrying a physician, although consultations might be requested in some instances by ships' doctors.

An officer of the Public Health Service, upon receipt of a request for medical advice, furnishes promptly whatever advice seems indicated, couched in language intelligible to a layman.

While the Panama Canal was not included in the original scheme, several requests for medical advice have been received here from ships at sea, and have been given prompt attention.

The United Fruit Company has established a similar system of free medical advice in the Caribbean and the Gulf of Mexico. A message from a ship's captain to any of the Company's radio stations in Central America or Colombia, giving the details of a case of illness or accident on his vessel, will be answered by the Company's physicians without charge.

The following information is abstracted from a circular issued by the United Fruit Company:

Radiograms requesting medical advice should be signed by the captain of the ship and should state briefly, but clearly, the symptoms of the person afflicted. Such radiograms should be addressed "Unifruitco" (name of place) and may be sent to any of the following United Fruit Company hospitals: Santa Marta, Colombia; Port Limon, Costa Rica; Almirante, Panama; Tela, Honduras; Puerto Castilla, Honduras; Puerto Barrios, Guatemala.

All United Fruit Company passenger steamships carry doctors and free medical advice may be secured by radio from any of them by a radiogram addressed "Ship's Doctor" followed by name of the steamship.

This free medical service is established primarily for the benefit of ships not carrying doctors; however, should occasion require, ships' doctors may hold consultation by radio with the United Fruit Company ships' doctors and hospital staffs.

The physicans and surgeons comprising the medical staff of the United Fruit Company and its subsidiaries are thoroughly qualified, but in view of the fact that radio medical advice to ships at sea is given free and without an opportunity for a personal examination of the patients, no responsibility will be assumed by either the company and its subsidiaries or the physicians or surgeons giving the advice as to its accuracy or for error in the receipt or transmission of any message sent or received in connection therewith.

It is requested that when sending medical advice radiograms, radio operators check them "(number of words) DH Medico."

"DH Medico" radiograms will be given preference over all other radiograms, excepting SOS calls, throughout the radio service of the United Fruit Company and subsidiary companies.

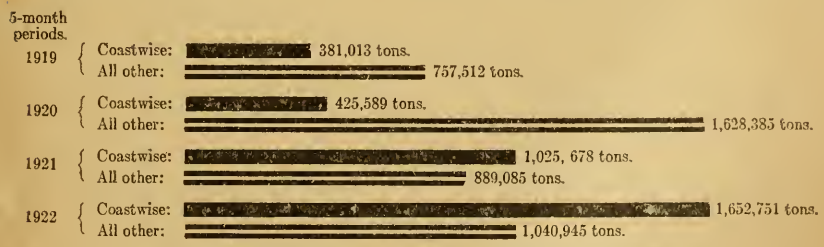
Large Cargo of Food Products in Cold Storage.

The steamship *Deerfield* transited the Canal on December 12 with a large cargo of refrigerated food products, among which were the following: Fifty-five tons of reindeer meat, 1,666 tons of frozen fish, 155 tons of frozen eggs, 110 tons of frozen berries, 11 tons of butter, 83,073 boxes of apples and 1,675 boxes of pears. With the exception of 221 tons of frozen fish to be discharged at Baltimore and Philadelphia, all of the above was destined for New York.

The *Deerfield* has 14 insulated cargo chambers with a total combined refrigerated capacity of 413,763 cubic feet.

Proportion of American Vessels in United States Coastwise and Other Trades.

The graph below presents a comparison of the net tonnage of United States vessels passing through the Panama Canal in the United States intercoastal (or coastwise) trade, with that of United States vessels passing through the Canal in other trades. The graph is for the 5 months' period, July to November, inclusive, in the years 1919, 1920, 1921, and 1922:



The percentage which the intercoastal traffic has formed of the total tonnage of United States vessels passing through the Canal, in the same 5-month periods, has been as follows: 1919, 33.5 per cent; 1920, 20.7 per cent; 1921, 53.5 per cent; 1922, 61.3 per cent.

Notice to Mariners.—Aid to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., December 14, 1922.

Captain Stone, steamship *Balboa*, reports a new light on El Morro Island, Tumaco Road, Colombia. Characteristics 1 flash 5 seconds as follows: Flash .5 seconds, eclipse 4.5 seconds. Elevation 260 feet, 2,500 candlepower, visibility about 20 miles. Red sector covers La Viuda Rock. Approximate location latitude 1° 50′ 35″ N., longitude 78° 44′ 15″ W..

M. L. WALKER,
Acting Governor.

Notice to Mariners.—Aid to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., December 14, 1922.

The following message was received through the Balboa Radio by the Chief Hydrographer:

"Swan Island—Commencing to-night, December 13, Swan Island beacon will be in operation, as formerly."

M. L. WALKER,
Acting Governor.

Aerial Bombing Ground.—Tortola Island, Bay of Panama.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., December 6, 1922.

To all concerned.—1. The Island of Tortola, which lies in Panama Bay and is part of the Canal Zone, is hereby set aside for the exclusive use of the United States Army, as a practice ground for bombing, and all persons, except those who shall receive permission from the Commanding General, Panama Canal Department, are expressly forbidden from entering upon or landing at said island, or from coming within 1 mile of said island at such time as a red flag is displayed thereon.

2. All possible precautions are being taken to prevent an accident as a result of live bombs being carried by airplanes, and the Army has expressly agreed that no live bomb will be carried without the use of suitable safety device so that bombs will not function in case they drop accidently; and, in addition, when necessary to cross the channel, planes carrying live bombs will not fly over any ship, lock, or canal accessory, nor over any inhabited area.

3. The Port Captain at Balboa will be advised, in advance, when it is the intention to hold bombing practice in the vicinity of this island, and this information will be broadcasted by the Naval Radio Station at Balboa for the information of shipping. In addition, the Army will maintain a patrol around this island when bombing is going on, to keep fishing boats and other small craft away from this vicinity during such periods.

JAY J. MORROW,
Governor.

Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the two weeks ended December 16:

Steamships *Unita*, dock and mark damaged plates and perform temporary repairs as requested to the damaged hull, remove, repair, and replace 3 sections of lead suction line; manufacture 4 lead strainer boxes; *San Joaquin*, repair 1 piece of pipe; manufacture burner-tips and hexagon nuts for condenser; *Munsomo*, services of diver and outfit to examine hull for leaks; *Antonio Lopez*, dock, clean, and paint underwater body one coat of paint; unship intermediate shaft, draw tail shaft, examine stern bearing, install propeller blades on new hub and reassemble all parts; *Hagelsberg*, install 2 closed chocks; *Cardiganshire*, repair eccentric strap and rod; *Apurimac*, dismantle air pump (repairs completed by ship's crew).

PREVIOUSLY REPORTED.

Dredge *Gamboa*, installation of auxiliary pontoons and work incident to the installation and miscellaneous repairs; barge *No. 47*, docking, staging, and cleaning and painting with 1 coat of red lead, 1 coat of anticorrosive and 1 coat of antifouling paint; U. S. submarine *O–13*, docking, staging and cleaning, painting and routine docking repairs; U. S. submarine *O–14*, docking, staging, cleaning and painting, routine docking repairs; craneboat *La Valley*, dock, stage, and clean, paint underwater body, general repairs and alterations; D. B. boat *L–55*, remove from rocks, tow to Balboa shops, place on dock, remove engine and hull sheathing in way of damages; Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck houses; motor ship *Ligia Elena*, remove boat from water and place on dock preparatory to installing new engine.

The following vessels were at the Cristobal shops during the two weeks ended December 18:

Steamships *Lord Ormonde*, install closed Panama Canal chocks on poop and forecastle decks; *K. I. Luckenbach*, manufacture and install 1 reduction gear; manu-

facture 4 coupling bolts and 8 sleeves; fitted coupling on new gear and machine same; bore and fit 2 bearings, etc.; gunboat *Bravo*, remove port strut bushing and rewood same; machine and fit new end on starboard tail shaft; manufacture new propeller hub; cast 2 brass blades and machine same for propeller; manufacture and install new guide for main engine; install new piston rod; straighten 2 engine brace rods and connecting rods for air pump; manufacture 2 new guide bars for crosshead slippers and install same; manufacture 4 check valves and face 1 valve seat; braze copper pipe; dock, clean, and paint bottom, etc.; steamships *Mantaro*, electric weld boiler; *Antonio Lopez*, services of diver to examine propeller; *General G. W. Goethals*, furnish men with staging to paint ship's side; *Panama*, straighten 2 stanchions in No. 1 hold; install patch on shell of ship; repair awning pipe on sun deck; clean and test 40 oil heater coils; *Colon*, renew two 6-inch nipples in pipe fitting as sample; install new sounding pipe in No. 7 tank; U. S. S. *Sciota*, manufacture 2 sets ball races for generator and 150 condenser ferrules; steamships *Santa Ana*, *San Blas*, *Parismina*, *Breda*, motor ship *Lobos*, yacht *Gloriana*, and launch *Activo*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending December 16, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Santa Tecla	Grace Line	December 3	December 3	1	(3)
Atenas	United Fruit Co	December 3	December 4	12	118
Saint Jean	French Line	December 3	December 4	40	(3)
Ulua	United Fruit Co	December 3	December 3	2½	168
Oranje Nassau	Royal Netherlands W. I. Mail	December 3	December 5	55	(3)
Laura C. Hall	Pacific Metals Corp	December 3	December 5	87	18
Panama	Panama Railroad Steamship Line	December 3	December 9	2,238	3,353
Perou	French Line	December 4	December 8	100	294
Toloa	United Fruit Co	December 5	December 6	162	29
San Bruno	United Fruit Co	December 6	December 6	12	(3)
Heredia	United Fruit Co	December 6	December 6	1,018	(3)
Stanley	Barber Lines	December 6	December 6	75	(3)
Tivives	United Fruit Co	December 6	December 7	102½	582
Carrillo	United Fruit Co	December 6	December 7	2	58
Mantaro	Peruvian Line	December 6		3,057	
Gen. O. H. Ernst	Panama Railroad Steamship Line	December 6	December 9	2,103	636
Atenas	United Fruit Co	December 7	December 7	(1)	3
Gen. G. W. Goethals	Panama Railroad Steamship Line	December 7	December 7	270	28
Ortega	Pacific Steam Navigation Co	December 7	December 7	(2)	1
Median	Leyland Line	December 8		708	
Oranje Nassau	Royal Netherlands W. I. Mail	December 8	December 8	10	632½
San Juan	Pacific Mail Steamship Line		December 8		1,480
Venezuela	Italian Line	December 8		144½	
Jan Van Nassau	Royal Netherlands W. I. Mail	December 8	December 9	168	(3)
C. A. Canfield	Pan.-Amer. Metals & Trans. Co	December 9		9,000	
Ebro	Pacific Steam Navigation Co	December 9		546	
Ebro	Pacific Steam Navigation Co		December 10		110
Lochkatrina	Pacific Steam Navigation Co	December 10	December 11	41	8½
Albaro	Italian Line		December 11		2,256
Colombia	Pacific Mail Steamship Line	December 10	December 11	134	237
Santa Marta	United Fruit Co	December 10	December 11	1	174
Antonio Lopez	Spanish Line	December 11		255	
Alvarado	Pacific Steam Navigation Co	December 11	December 12	636	18
Huanchaco	Pacific Steam Navigation Co	December 11	December 13	159	649
San Blas	United Fruit Co	December 12	December 13	(2)	240
Calamares	United Fruit Co	December 12	December 13	375	63
Parismina	United Fruit Co	December 13	December 14	1,416	(3)
Colon	Panama Railroad Steamship Line	December 13		1,574	
Balboa	Colombian Maritime Co	December 13		426¾	
Metapan	United Fruit Co	December 13	December 14	341	231
Tivives	United Fruit Co	December 13	December 14	¾	64
Essequibo	Pacific Steam Navigation Co	December 13	December 14	25	14½
Mantaro	Peruvian Line		December 14		1,258
Norwegian	Leyland Line	December 14	December 15	622	167
Ecuador	Pacific Mail Steamship Co	December 14	December 15	309	153½
Santa Marta	United Fruit Co	December 14	December 14	¼	93
San Blas	United Fruit Co	December 16	December 16	9	(3)
Almagro	Pacific Steam Navigation Co	December 16		304½	
Ucayali	Peruvian Line	December 16		1,400	
Mineola	Grace Line	December 16	December 16	39	7

[1] 95 pounds. [2] No cargo discharged. [3] No cargo laded.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The Cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending December 16, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Rosana	Alberto Fait	December 3	December 7	227	
General O. H. Ernst	Panama Railroad Steamship Line	December 5	December 6	77	441
U. S. A. T. Cambrai	U. S. Army	December 4	December 6	2,501	
Stanley	U. S. Shipping Board	December 5	December 6	50	
San Joaquin	W. Wilhelmsen	December 5	December 8	9,300	
Laura C. Hall	Pacific Metals Corp	December 5	December 5		115
Del Rosa	U. S. Shipping Board	December 6	December 6	40	
U. S. S. Henderson	U. S. Navy	December 6	December 7	58	
Peursum	Vinke & Co	December 7	December 7	66	8
U. S. S. Pyro	U. S. Navy	December 8	December 11	3	
Colombia	Pacific Mail Steamship Co	December 9	December 10	40	
Acajutla	Pacific Steam Navigation Co	December 10	December 10		14
Ecuador	Pacific Mail Steamship Co	December 15	December 15	3	5
Venezuela	Pacific Mail Steamship Co	December 11	December 11		103
Mantaro	Peruvian Line	December 14	December 15		21
Targis	Roland Line	December 15	December 15	50	
Sinaloa	A. O. Lindvig	December 16	December 16	123	
Nictheroy	Royal Mail Steam Packet Co	December 9	December 10		207

Panama Railroad Motor Car Passenger Service Between Panama and Paraiso.

Daily—Effective Monday, December 11, 1922, 6.00 A. M.

Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.		Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.
P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave. Arrive.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
11.25	9.20	7.40	4.50	3.15	11.40	9.00	7.20	Paraiso	7.10	8.50	11.30	3.00	4.40	7.30	9.10	11.05
11.30	9.25	7.45	4.55	3.20	11.45	9.05	7.25	Pedro Miguel	7.07	8.47	11.27	2.57	4.37	7.27	9.07	11.02
11.34	9.29	7.49	4.59	3.24	11.49	9.09	7.29	Red Tank	7.04	8.44	11.24	2.54	4.34	7.24	9.04	10.59
11.37	9.32	7.52	5.02	3.27	11.52	9.12	7.32	Miraflores L'cks	7.01	8.41	11.21	2.51	4.31	7.21	9.01	10.56
11.40	9.35	7.55	5.05	3.30	11.55	9.15	7.35	Fort Clayton	6.59	8.39	11.19	2.49	4.29	7.19	8.59	10.54
11.45	9.40	8.00	5.10	3.35	11.59	9.20	7.40	Corozal	6.54	8.34	11.14	2.44	4.24	7.14	8.54	10.49
					P. M.											
11.47	9.42	8.02	5.12	3.36	12.01	9.22	7.42	Diablo	6.49	8.29	11.09	2.39	4.19	7.09	8.49	10.44
11.50	9.45	8.03	5.15	3.40	12.05	9.25	7.45	Balboa Heights	6.47	8.27	11.07	2.37	4.17	7.07	8.47	10.42
11.55	9.50	8.10	5.20	3.45	12.10	9.30	7.50	Panama	6.40	8.20	11.00	2.30	4.10	7.00	8.40	10.35
P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	Arrive. Leave.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.

W. F. FOSTER,
Master of Transportation.

Approved:
S. W. HEALD,
Superintendent.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Colon	December 5	December 10	December 13	December 19	December 22	December 26
Gen. W. C. Gorgas	December 15	December 21	December 24	December 29	January 1	January 6
Panama	December 23	December 28	December 31	January 9	January 12	January 16
Colon	January 5	January 10	January 13	January 19	January 22	January 26
Gen. W. C. Gorgas	January 15	January 21	January 24	January 29	February 1	February 6
Panama	January 25	January 30	February 2	February 9	February 12	February 16
Colon	February 5	February 10	February 13	February 19	February 22	February 26
Gen. W. C. Gorgas	February 14	February 20	February 23	February 28	March 3	March 8
Panama	February 24	March 1	March 4	March 9	March 12	March 16

FROM NORFOLK.

Steamer.	Leave Norfolk.	Arrive Cristobal.	Leave Cristobal.	Arrive Norfolk.
Cristobal	December 20	December 26	December 31	January 6

Effect of the Creation of Gatun Lake on Local Rainfall.

It has been suggested that the creation of an inland body of water as large as Gatun Lake (165 square miles) might possibly result in a slight increase in precipitation, especially during the dry season, at stations on the leeward side of the lake.

A study in 1918 of the records then available, to determine whether there had been such a result, was inconclusive. It appeared then that the creation of Gatun Lake had had no appreciable effect on Isthmian rainfall, or that the effect had been so slight that records extending over a much longer period would be required to disclose even slight local increases of precipitation, resulting from the increase in atmospheric humidity due to evaporation from the lake surface.

A further study of the records available to the close of the year 1921 also fails to disclose an increase of rainfall. In fact, the average annual precipitation at seven stations from Gamboa to Balboa during the years from 1913 to 1921 was less in every instance than the annual average at the same stations during the years of record prior to 1913. Even when the excessive rainfall of 1909 and 1910 is omitted from the calculation the result is the same except at one station.

However, it is generally conceded that rainfall increases or decreases over long periods in indefinite cycles, and it is possible that the slight effect of the lake on precipitation was obscured by the more potent but undetermined factors operating to make 1919 and 1920, for instance, years of minimum rainfall.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective December 11, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.20
Oil; marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Official Circular.

Motor Car Passenger Service Between Panama and Paraiso.

PANAMA RAILROAD COMPANY,
BALBOA HEIGHTS, C. Z., December 4, 1922.

CIRCULAR RA No. 754:

To all concerned—On December 11, 1922, the Panama Railroad will inaugurate a motor car passenger service between Panama and Paraiso, between 6.40 a. m. and 11.55 p. m. daily.

The equipment consists of a motor car and trailer, with a seating capacity of 16 and 28 passengers, respectively.

Cash fares will be accepted on these cars as follows:

From Panama or any other point south of Miraflores to Miraflores..... $0.10
From Miraflores to Red Tank, Pedro Miguel, or Paraiso, or *vice versa*.... .05

In other words, south of Miraflores tunnel the rate between any two stations will be 10 cents, and the maximum charge for the longest distance will not exceed 10 cents; likewise, between the south end of Miraflores tunnel and Paraiso, the fare will be 5 cents between any two stations and not to exceed 5 cents for the longest distance. Therefore the charge from any point south of Miraflores to any point north of Miraflores or *vice versa* will be 15 cents.

No cash fare receipts will be issued.

Panama Canal and Panama Railroad business trip passes will be accepted on these cars. These passes show the name of the employee, the stations between which travel is desired, and the nature of the business.

One hundred and twenty-trip passes will also be honored on these cars.

Special tickets with a value of 5 cents each are being printed and bound in books of 20 tickets each, which will be placed on sale with the motorman and station agents, at $1 each.

No other forms of passes or tickets will be accepted on these cars. Those holding annual passes will provide themselves with official business passes or other forms of transportation specified herein.

For the time being, the motorman will make trip reports at the end of each run, showing the number of passengers carried, but the cash collected may be deposited daily in a lump sum without reference to the trips. The tickets and passes lifted will also be sent to the Auditor's office once a day without separation by trips. The trip reports, tickets, and passes will be mailed in the same envelope.

ELWYN GREENE,
Auditor, The Panama Canal.

Approved and compliance directed:
S. W. HEALD,
Superintendent, Panama Railroad Co.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 235.

PORT OF CRISTOBAL.—Continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Dec. 13	Colon	Panama Railroad Steamship Line.	New York via Haiti.
Dec. 13	Parismina	United Fruit Co.	New Orleans via Habana.
Dec. 13	Metapan	United Fruit Co.	New York via Kingston.
Dec. 13	Tivives	United Fruit Co.	Colombian ports.
Dec. 14	Santa Marta	United Fruit Co.	Bocas del Toro.
Dec. 14	Norwegian	Leyland Line.	Liverpool via wayports.
Dec. 15	San Blas	United Fruit Co.	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Dec. 13	Calamares	United Fruit Co.	New York via wayports.
Dec. 14	San Blas	United Fruit Co.	Port Limon.
Dec. 14	Parismina	United Fruit Co.	New Orleans via wayports.
Dec. 14	Tivives	United Fruit Co.	New York via Kingston.
Dec. 14	Santa Marta	United Fruit Co.	New Orleans.
Dec. 15	Norwegian	Leyland Line	New Orleans.
Dec. 15	San Blas	United Fruit Co.	Boston.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
Dec. 13	Lord Ormonde **	American Metals Transport. Co.	High seas.

Date.	Vessel.	Line.	For—
Dec. 13	Lord Ormond	American Metals Transport. Co.	Buenaventura

** Returned for a fireman.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, $1.50 per year; foreign, $2.00; address The Panama Canal Record, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., December 27, 1922. No. 20.

Good Wishes of the Season.

THE PANAMA CANAL,
BALBOA HEIGHTS, C. Z., December 23, 1922.

As in previous years The Panama Canal extends to all of its patrons and employees and to the people of Panama the greetings of the season.

The final completion of construction work on the Canal and its auxiliaries, delayed by the war, and the transition to the routine of operation, involved readjustments which were painful in many cases, and created on the Isthmus a feeling of irritation and unrest. This was no less marked in 1922 than in 1921. Our own local problems, serious enough in themselves, were aggravated by the world-wide collapse of prices and scaling down of wages which followed the war boom. The past 2 years have been everywhere a trying period of commercial stagnation and industrial friction; but our own troubles, if viewed in proper perspective, would appear trivial in comparison with those of almost any other community.

At last conditions are improving; the world seems to have passed the worst of the post-war depression, and better times are ahead.

The business of the Panama Canal has increased materially during 1922, and there is ample reason to believe that it will grow steadily and rapidly during the coming year and the years to follow. The prosperity of the Canal is merely the reflection of the prosperity of its patrons and of the world. Locally the normal increase of traffic will have far-reaching effects, and result in ultimate benefit to our employees and to the people of the Isthmus. We who are primarily interested have reason to face the new year in a cheerful and optimistic spirit.

M. L. WALKER,
Acting Governor.

Fruit Shipments from North Pacific Coast Ports.

Many large shipments of fresh fruit are being dispatched from North Pacific Coast ports to Europe through the Panama Canal, practically all vessels in this service equipped with refrigerating installations being loaded to their capacity.

What is reported as the largest single shipment of apples from any northern Pacific Coast port was carried by the steamer *Narenta* of the Royal Mail Steam Packet Company, which transited the Canal on December 19 with 125,000 boxes of apples laden at Portland, Oreg., for discharge at British ports.

The *Narenta* carried a cargo of 4,854 tons, in which were 3,732 tons of fresh fruits and 640 tons of canned fruits. The steamer has 25 insulated cargo chambers with a total refrigerated capacity of 436,090 cubic feet.

CANAL WORK IN NOVEMBER.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of November, 1922:

BALBOA HEIGHTS, C. Z., December 18, 1922.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of November, 1922:

CANAL TRAFFIC.

The total traffic which passed through the Canal during the month exceeded that of any other month since the Canal was opened to traffic. New high records were established for tonnage and amount of tolls assessed. The following summary shows a comparison of the November traffic with the October traffic, and with the average month for the fiscal year ending June 30, 1922:

	November, 1922.	October, 1922.	Average month for fiscal year 1922.
Number of vessels	294	294	228
United States equivalent tonnage	1,062,725	1,049,256	766,801
Panama Canal net tonnage	1,337,280	1,300,392	951,455
Registered gross tonnage	1,669,486	1,652,435	1,196,757
Registered net tonnage	1,044,833	1,042,966	762,601
Tolls	$1,264,436.54	$1,255,508.00	$933,152.70
Tons of cargo carried	1,426,860	1,445,863	907,076

The previous high record for tolls established in the month of October, 1922, was exceeded during the month of November, by $8,928.54.

EASTBOUND TRAFFIC.

Eastbound traffic—The cargo in transit through the Canal from the Pacific to the Atlantic totaled 925,482 tons, and is the greatest 1-way cargo movement during any month since the opening of the Canal. Shipments of nitrate from the west coast of South America during the month totaled 213,574 tons, as compared with 151,126 tons shipped in October, 1922. Other items which helped to make up the greater portion of the cargo passing from the Pacific to the Atlantic were barley, canned goods, lumber, metals, oils, ores, sugar, and wheat.

The cargo originating on the west coast of the United States amounted to 453,901 tons, as compared with 293,815 tons in November, 1921, or an increase in 1 year of 54 per cent; and represents 49 per cent of the total amount of cargo from the Pacific to the Atlantic. The amount of cargo originating on the west coast of South America was 357,004 tons, as compared with 125,244 tons in November, 1921, or an increase of 185 per cent. The cargo originating in the Far East in November, 1922, was 42,576 tons, as compared with 29,574 tons in November, 1921, or an increase of 44 per cent. The foregoing are the three geographical areas which showed the greatest increase in traffic.

The total amount of cargo destined to the east coast of the United States in November, 1922, amounted to 504,745 tons, as compared with 179,807 tons in November, 1921, or an increase of 180 per cent; the amount of cargo destined to European ports in November, 1922, amounted to 372,806 tons, as compared with 274,731 tons in November, 1921, or an increase of 35 per cent. It will be seen from the foregoing comparisons that the great bulk of the increase in cargo tonnage through the Panama Canal is United States coastwise traffic, and cargo originating on the west coast of South America.

WESTBOUND TRAFFIC.

Westbound traffic—The amount of cargo originating on the east coast of the United States in November, 1922, amounted to 339,332 tons, as compared with 255,781 tons in November, 1921, or an increase of 32 per cent. The cargo originating in Europe in November, 1922, amounted to 125,687 tons, as compared with 93,652 tons in November, 1921, or an increase of 34 per cent.

The total amount of cargo destined to the west coast of South America in November, 1922, was 84,285 tons, as compared with 37,161 tons in November, 1921, or an increase of 127 per cent. The cargo destined to the west coast of the United States in November, 1922, totaled 215,785 tons, as compared with 133,760 tons in Novem-

ber, 1921, or an increase of 61 per cent. The cargo destined to the Far East in November, 1922, amounted to 103,063 tons, as compared with 123,439 tons in November, 1921, or a decrease of 16 per cent.

The principal commodities shipped westbound through the Canal were manufactured goods, coal and coke, cotton, crude and refined oils, sulphur, and metals.

There were 31 vessels in ballast from the Atlantic to the Pacific, 16 of which were tankers; and 5 vessels in ballast from the Pacific to the Atlantic, all of which were tankers.

NUMBER OF VESSELS TRANSITING CANAL.

The total number of vessels and craft of all kinds transiting the Canal during the month of November, as compared with the preceding month and with November, 1921, was as follows:

	November, 1922.	October, 1922.	November, 1921.
Commercial vessels	294	294	222
Noncommercial vessels	21	5	13
Launches, etc. (under 10 tons measurement)	5	20	4
Total vessels and craft through the Canal	320	319	239

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in November, as follows:

	North-bound.	South-bound.	Total.
Gatun	13	15	28
Pedro Miguel	30	27	57
Miraflores	33	33	66

COMMERCIAL TRAFFIC.[1]

Comparative Traffic Statistics.

The following tabulations furnish a ready comparison of commercial traffic through the Panama Canal during the month of November, 1922, with the preceding month, and with the month of November, 1921, along the lines indicated at the head of the various tables:

TONNAGE, TOLLS, AND CARGO CARRIED.

	November, 1922.	October, 1922.	November, 1921.	Average month for past year.
United States equivalent net tonnage	1,062,725	1,049,256	753,697	841,574
Panama Canal net tonnage	1,337,280	1,309,392	942,411	1,052,046
Registered gross tonnage	1,669,485	1,652,435	1,184,157	1,322,081
Registered net tonnage	1,044,833	1,042,966	752,886	836,593
Tolls	$1,264,436.54	$1,255,538.00	$923,048.70	$1,022,036.33
Tons of cargo	1,426,860	1,445,863	855,440	1,094,042

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	November, 1922.	October, 1922.	November, 1921.
United States equivalent net tonnage	3,614	3,593	3,395
Panama Canal net tonnage	4,548	4,453	4,245
Registered gross tonnage	5,678	5,658	5,334
Registered net tonnage	3,554	3,572	3,391
Tolls	$4,300.80	$4,270.43	$4,157.88
Tons of cargo (including vessels in ballast)	4,853	4,951	3,853
Tons of cargo (laden vessels only)	5,595	5,497	4,322

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

UNITED STATES COASTWISE TRAFFIC.

In number of vessels, net tonnage, and tons of cargo carried, the coastwise traffic through the Canal was a little greater than last month; the tolls, however, were slightly less.

In relation to the total traffic through the Canal, the United States intercoastal traffic comprised 29 per cent of the net tonnage, 30 per cent of the cargo tonnage, and 28 per cent of the tolls.

Considering vessels of United States registry only, vessels engaged in the intercoastal traffic made up 65 per cent of the net tonnage, paid 64 per cent of the tolls, and carried 66 per cent of all cargo transiting the Canal under the United States flag.

The following tabulation shows the net tonnage, tolls, and cargo carried by vessels engaged in the United States intercoastal trade during the past 12 months:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
November.....	24	136,349	$131,558.19	91,067	17	86,958	$88,339.80	101,460
December.....	20	104,152	106,549.80	73,967	23	116,482	117,600.08	105,134
1922.								
January.....	28	138,928	141,404.35	119,413	20	108,921	111,440.00	86,862
February.....	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March.....	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April.....	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May.....	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June.....	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July.....	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August.....	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150
September.....	34	175,211	164,208.35	162,955	29	144,231	137,377.25	192,300
October.....	44	218,319	201,582.70	176,911	29	156,722	160,497.85	235,728
November.....	43	225,442	199,628.57	164,680	31	162,615	157,142.50	263,422

UNITED STATES SHIPPING BOARD VESSELS.

Ten United States Shipping Board vessels, having an aggregate Panama Canal net tonnage of 49,586, on which tolls of $49,658 were paid, and carrying a combined cargo of 51,933 tons, transited the Canal during the month.

Of the 10 vessels, 4 were being operated in the United States–Latin American trade, 3 in the United States–Far East trade, 2 in the United States intercoastal trade, and 1 in the United States–Australasian trade.

The following is a statement of Shipping Board vessels that have passed through the Canal during the past year:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1921.								
November.....	12	74,635	$71,525.74	44,975	5	29,949	$29,127.50	28,865
December.....	9	47,604	46,318.75	44,101	6	32,957	32,803.75	28,784
1922.								
January.....	6	34,546	34,756.25	23,575	7	31,550	30,646.95	28,831
February.....	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March.....	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April.....	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May.....	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June.....	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July.....	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August.....	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532
September.....	8	43,796	36,661.62	33,559	5	24,116	23,363.75	36,935
October.....	6	30,872	31,203.35	29,742	6	27,656	26,533.95	39,240
November.....	5	25,566	25,770.00	20,002	5	24,020	23,888.00	31,931

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage.

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
November	301,680	192,594	14,997	18,444	11,302	539,017
December	312,225	198,287	21,113	15,601	28,443	575,669
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,225	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
September	369,756	170,003	4,382	17,271	21,004	582,416
October	433,864	196,618	14,170	19,665	48,135	712,452
November	449,080	174,504	13,035	17,692	40,652	694,963
Average month for past year	354,937	162,210	19,536	18,657	28,354	583,694

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
November	216,092	107,721	95,216	78,493	41,495	539,017
December	188,615	115,980	136,940	84,391	49,743	575,669
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
September	257,780	122,215	99,828	76,203	26,390	582,416
October	281,857	194,282	106,467	82,250	47,596	712,452
November	276,301	167,963	98,280	73,004	79,415	694,963
Average month for past year	208,817	132,781	117,207	77,870	47,019	583,694

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1921.						
November	189,942	126,381	23,556	6,581	56,934	403,394
December	195,969	135,952	28,194	39,616	41,844	441,575
1922.						
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
September	244,463	143,762	32,903	27,451	39,415	487,994
October	287,606	201,071	20,232	8,022	81,009	597,940
November	244,902	237,497	43,148	22,547	94,223	642,317
Average month for past year	195,674	140,222	30,014	33,975	60,803	460,688

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1921.						
November	196,974	164,345	20,446	16,760	4,869	403,394
December	191,277	192,575	25,550	21,739	10,434	441,575

DESTINATION OF ALL CARGO—PACIFIC TO ATLANTIC—continued.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
1922.						
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	10,851	472,271
September	165,132	263,987	10,868	21,782	26,225	487,994
October	246,239	278,764	9,346	15,667	47,924	597,940
November	254,212	333,867	15,223	18,389	20,626	642,317
Average month for past year	176,535	230,867	18,523	18,994	15,769	460,688

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of November, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year.

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	44.0		7.5	
East coast of United States	44.7		26.5	
East coast of Mexico		17.8		33.3
Cristobal, C. Z.		3.3		5.2
West coast of United States	32.3		25.2	
West coast of South America	26.5		69.2	
Australasia		7.6		33.7
Far East		14.2	43.8	

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,264,436.54. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the revenue would have been increased by $262,777.78. The additional tolls would have been contributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Belgium		$1,498.20	$1,498.20
British	$35,803.94	24,012.60	59,816.54
Chilean	2,548.10	2,548.10	5,096.20
Danish	1,084.45	7,016.30	8,100.75
Dutch	7,159.90	6,526.60	13,686.50
French	456.50	2,766.15	3,222.65
German	6,067.95	4,220.90	10,288.85
Greek		2,151.85	2,151.85
Italian	636.30	1,014.80	1,651.10
Japanese	5,859.00	2,885.05	8,744.05
Norwegian	3,460.60	9,457.60	12,918.20
Panaman	707.27		707.27
Peruvian	4,666.65	4,666.65	9,333.30
Spanish		402.00	402.00
Swedish	818.75	4,297.00	5,115.75
United States	52,395.47	67,649.10	120,044.57
Totals	121,664.88	141,112.90	262,777.78

The additional tolls that would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States and United States possessions		$3,707.65	$3,707.65
United States coastwise ports	$33,873.88	46,504.65	80,378.53
United States and Canal Zone ports	1,238.20	319.70	1,557.90
United States and foreign ports	17,283.39	15,118.05	32,401.44
Between foreign ports		1,999.05	1,999.05
Totals	52,395.47	67,649.10	120,044.57

Of the additional $262,777.78 revenue that would have been assessed by using exclusively the Panama Canal rules of measurement, $11,816.40 represents the sum that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in November, 1922, is shown in the following table, segregated by nationality of vessels; vessels in ballast are excluded:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Belgian	.....	1.73	1.73
British	.91	1.45	1.17
Chilean	.34	.07	.24
Danish	.90	1.69	1.49
Dutch	.67	1.49	1.09
French	.28	1.55	1.18
German	.80	1.01	.91
Greek	.....	1.94	1.94
Italian	.23	1.33	.98
Japanese	.97	1.32	1.08
Norwegian	1.14	1.71	1.55
Panaman	1.64	.....	1.64
Peruvian	.17	.80	.51
Swedish	1.16	1.26	1.23
United States	1.06	1.56	1.33
Average ratio, November, 1922	.95	1.50	1.24
Average ratio, October, 1922	1.00	1.48	1.25
Average ratio, November, 1921	.83	1.22	1.08

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.73	1.62	1.11
United States and South America	23	1.71	1.09
United States and Europe	.64	1.47	1.18
United States and Far East	1.09	.99	1.05
Europe and South America	.75	1.62	1.29
Europe and Australasia	.92	1.00	.94
Europe and Canada	.67	1.47	1.25
Cristobal, C. Z., and South America	.27	.43	.35
United States and Australasia	1.09	.71	.98

COMMODITY STATISTICS.

The following commodity statistics, compiled from declarations of cargo and manifests submitted by the ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 64 per cent of all cargo passing from the Atlantic to the Pacific, and 94 per cent of all cargo passing from Pacific to Atlantic ports, the remaining being listed as "general merchandise." A brief comparative summary of the principal items is shown herewith; the figures represent tons of 2,240 pounds:

Commodity.	November, 1922.	October, 1922.	November, 1921.
Atlantic to Pacific.			
Ammonia	2,312	2,526	7,447
Automobile and accessories	2,462	5,545	727
Cement	6,976	9,404	5,233
Coal and coke	11,949	35,203	52,850
Cotton, raw	11,617	10,179	20,807
Creosote	.....	8,523	.....
Glassware	1,163	3,619	1,168
Manufactured goods:			
Iron and steel	91,740	107,389	65,071
Railroad material	5,134	18,002	6,162
Machinery	10,673	9,047	3,806
Textiles	4,065	3,030	2,358
Other manufactured goods	3,603	13,842	11,601

Commodity.	November, 1922.	October, 1922.	November, 1921.
Atlantic to Pacific.—continued.			
Metals, various	14,519	9,288	10,052
Oils:			
Crude petroleum	20,841	25,771	30,144
Lubricating oil	8,691	2,822	1,739
Kerosene, gasoline	49,042	76,834	47,944
Vegetable and other oils	718	623	1,374
Paper	7,831	7,237	2,900
Sulphur	16,825	7,507	2,500
Sugar	3,350	3,100	25
Tobacco	4,263	1,438	2,075
Other and general merchandise	223,604	204,146	110,698
Totals	501,378	565,075	386,681
Pacific to Atlantic.			
Barley	50,676	66,288	37,989
Beans, peas, lentils, etc	7,189	4,365	9,221
Cacao	1,401	4,289	1,526
Canned goods:			
Fish	16,108	29,428	13,767
Fruit	32,442	37,899	19,808
Other, and unclassified	8,983	8,333	1,470
Coffee	2,202	2,652	3,785
Copra	8,800	4,883	1,481
Cotton, raw	4,703	5,759	4,896
Flour	5,779	2,643	2,387
Fruit, dried	24,382	12,847	2,109
Hemp	1,564	3,336	116
Ivory nuts	1,624	2,918	3,012
Lumber	85,676	105,108	50,564
Metals:			
Copper	25,013	22,288	12,954
Other, various	4,707	3,279	1,561
Nitrates	213,574	151,126	39,523
Oils:			
Crude and petroleum, and naphtha	95,985	93,925	26,617
Lubricating oil	14,732	16,149	10,144
Benzine, kerosene, gasoline	3,612	.....	25
Vegetable and other oils	7,515	1,165	761
Ores:			
Iron	38,541	51,800	.....
Other, various	23,847	5,798	12,622
Rice	12,521	3,440	4,678
Skins and hides	3,097	1,490	1,983
Sugar	41,499	31,707	11,210
Tea	3,050	1,876	1,983
Wheat	83,073	119,535	110,831
Wool	6,233	7,450	4,349
Other and general merchandise	96,954	78,692	77,397
Totals	925,482	880,788	468,759

LATIN-AMERICAN TRAFFIC.

The amount of tonnage and cargo routed to and from Latin America through the Canal during the month of November, 1922, classified by nationality, is shown in the following tabulation:

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
British	18	51,076	65,588	83,659	51,382	$57,548.15	45,063
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	1,797
Dutch	3	8,779	14,111	14,256	8,760	10,973.75	10,223
Danish	2	4,907	5,354	6,841	4,206	4,755.84	1,250
German	5	13,089	18,655	21,810	13,100	16,361.25	14,990
Italian	1	3,306	3,974	5,488	3,276	4,132.50	936
Japanese	1	3,645	4,230	5,761	3,556	4,556.25	1,907
Norwegian	2	5,434	6,276	7,773	4,810	6,792.50	6,100
Panaman	3	3,366	3,804	5,743	3,455	4,204.75	.....
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	1,346
United States	14	43,401	52,968	72,851	43,194	44,718.17	13,524
Totals, November, 1922	54	143,788	188,040	243,161	145,921	162,524.41	97,163
Totals, October, 1922	60	177,275	221,961	292,347	178,022	201,623.48	131,617
Totals, November, 1921	45	103,309	129,988	169,236	104,285	122,533.27	75,426

PACIFIC TO ATLANTIC.

Belgian	2	7,956	9,536	10,673	6,743	9,945.00	16,452
British	24	69,082	80,251	106,188	65,393	79,257.94	97,147
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	382
Danish	4	12,809	17,530	20,334	13,554	16,011.25	30,056
Dutch	4	10,183	14,434	15,283	9,488	12,635.40	22,820
German	5	14,894	19,032	24,186	15,107	18,617.50	19,117
Greek	2	5,323	7,338	8,736	5,397	6,653.75	14,238
Italian	1	3,303	4,013	5,663	3,458	4,128.75	6,715
Norwegian	7	23,242	28,083	36,445	23,220	28,806.55	52,065
Peruvian	4	5,182	9,271	14,318	7,446	6,458.55	7,412
Spanish	1	1,896	2,310	3,811	2,784	2,370.00	4,859
United States	14	46,443	57,160	76,639	46,635	58,053.75	95,514
Totals, November, 1922	70	203,399	254,296	328,803	203,130	246,795.94	366,777
Totals, October, 1922	60	169,753	215,830	279,319	170,634	209,259.44	305,362
Totals, November, 1921	44	102,813	135,166	175,481	105,463	121,103.92	123,150

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of November, 1922, was published in THE PANAMA CANAL RECORD under date of December 13, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes during the month of November, 1922, as compared with October, 1922, and with November, 1921:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	November, 1922.	October, 1922.	November 1921.	November, 1922.	October, 1922.	November, 1921.
United States coastwise ports	43	44	24	31	29	17
United States and Far East	19	19	17	8	3	4
Europe and United States	8	11	13	14	23	21
United States and South America	17	21	12	25	23	11
Europe and South America	14	16	11	24	18	13
Cristobal and South America	6	8	10	7	7	10
Europe and Australasia	6	7	8	3	1	1
United States and Australasia	4	7	5	2	.....	.....
Europe and Canada	5	5	5	13	9	7
Mexico and United States	.....	.....	2	1	1	.....
Mexico and South America	3	3	1	3	4	4
United States and Canada	5	1	.....	4	4	.....
Miscellaneous	18	17	15	11	16	11
Totals	148	159	123	146	135	99
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	225,442	218,319	136,349	162,615	156,722	86,958
United States and Far East	94,050	100,000	91,115	43,148	14,776	19,159
Europe and United States	38,246	54,505	57,229	69,603	114,484	96,647
United States and South America	69,259	83,636	40,368	101,309	91,440	41,217
Europe and South America	59,087	68,936	42,473	96,781	72,953	51,947
Cristobal and South America	13,964	14,511	13,111	14,036	12,106	12,149
Europe and Australasia	48,828	42,141	58,006	13,972	3,930	6,581
United States and Australasia	20,106	27,528	20,487	8,575	.....	.....
Europe and Canada	25,226	31,036	28,102	67,815	48,055	37,043
Mexico and United States	.....	.....	9,946	1,504	4,964	.....
Mexico and South America	13,035	14,170	5,051	13,719	4,382	20,446
United States and Canada	24,511	4,381	.....	18,220	15,826	.....
Miscellaneous	63,209	53,289	36,780	31,020	58,302	30,888
Totals	694,963	712,452	539,017	642,317	597,940	403,394
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	164,680	176,911	91,067	263,422	235,728	101,460
United States and Far East	102,237	107,568	116,028	42,710	22,214	23,080
Europe and United States	24,638	34,915	17,313	102,215	184,094	151,491
United States and South America	14,081	19,476	14,878	173,157	156,491	44,225
Europe and South America	44,210	61,376	19,473	156,950	100,131	68,994
Cristobal and South America	3,789	2,134	2,269	6,021	5,328	6,927
Europe and Australasia	45,119	34,314	48,400	13,900	4,514	5,775
United States and Australasia	21,986	40,002	21,659	6,100	.....	.....
Europe and Canada	16,918	21,848	6,611	99,718	71,151	41,171
Mexico and United States	.....	.....	20,300	1,826	4,500	.....
Mexico and South America	22,005	25,885	9,000	.....	.....	.....
United States and Canada	26,604	5,900	.....	23,204	23,522	.....
Miscellaneous	15,111	34,746	19,683	36,219	73,115	25,636
Totals	501,378	565,075	386,681	925,482	880,788	468,759

TRAFFIC BY NATIONALITY.

A statement of all commercial traffic passing through the Canal in November, 1922, classified according to the nationality of the various vessels, is shown in the following tabulation:

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
From Atlantic to Pacific.							
British	43	171,966	216,630	266,937	167,479	$201,005.02	153,466
Chilean	2	3,086	5,338	6,527	3,905	3,887.50	1,797
Danish	3	9,114	10,640	12,137	7,531	10,014.59	6,429
Dutch	4	13,642	20,177	21,911	13,559	17,052.50	13,323
French	1	3,638	4,170	5,796	3,689	4,547.50	1,160
German	5	13,089	18,655	21,810	13,100	16,361.25	14,990
Italian	1	3,306	3,974	5,488	3,276	4,132.50	936
Japanese	10	40,346	47,275	61,264	39,446	48,001.08	40,026
Norwegian	5	16,324	19,888	25,040	15,694	20,405.00	22,890
Panaman	5	10,817	11,791	16,094	10,090	13,403.05	6,000
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	1,346
Swedish	1	3,089	3,900	3,805	2,833	3,861.25	4,515
United States	65	260,689	324,783	403,932	252,398	289,065.49	234,500
Totals, November, 1922	148	552,805	694,963	863,193	539,277	636,330.48	501,378
Totals, October, 1922	159	566,856	712,452	899,040	565,986	657,837.91	565,075
Totals, November, 1921	123	431,267	539,017	671,741	429,608	528,209.07	386,681
From Pacific to Atlantic.							
Belgian	2	7,956	9,536	10,673	6,743	9,945.00	16,452
British	43	145,384	172,635	220,732	137,791	174,479.64	225,169
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	382
Danish	5	15,794	22,148	26,307	18,139	19,742.50	37,236
Dutch	5	15,959	21,985	24,682	15,302	19,855.40	32,681
French	2	7,485	10,004	12,177	7,467	9,356.25	15,561
German	5	14,894	19,032	24,186	15,107	18,617.50	19,117
Greek	2	5,323	7,338	8,736	5,397	6,653.75	14,238
Italian	2	7,328	8,062	11,063	7,277	9,160.00	10,769
Japanese	4	17,462	20,413	26,571	17,167	21,610.55	26,985
Norwegian	11	37,743	46,742	59,806	37,837	46,932.80	80,172
Peruvian	4	5,182	9,271	14,318	7,446	6,458.55	7,412
Spanish	1	1,896	2,310	3,811	2,784	2,370.00	4,859
Swedish	3	10,294	14,210	13,927	10,596	12,755.00	17,934
United States	55	214,224	273,293	342,777	212,598	266,311.62	416,515
Totals, November, 1922	146	509,920	642,317	806,293	505,556	628,106.06	925,482
Totals, October, 1922	135	482,402	597,940	753,395	476,980	597,670.09	880,788
Totals, November, 1921	99	322,430	403,394	512,416	323,278	394,839.63	468,759
Combined traffic.							
Belgian	2	7,956	9,536	10,673	6,743	9,945.00	16,452
British	86	317,350	389,265	487,669	305,270	375,484.66	378,635
Chilean	4	6,175	10,676	13,054	7,810	7,715.00	2,179
Danish	8	24,908	32,788	38,444	25,670	29,757.09	43,665
Dutch	9	29,601	42,162	46,593	28,861	36,907.90	46,004
French	3	11,123	14,174	17,973	11,156	13,903.75	16,721
German	10	27,983	37,687	45,996	28,207	34,978.75	34,107
Greek	2	5,523	7,338	8,736	5,397	6,653.75	14,238
Italian	3	10,634	12,036	16,551	10,553	13,292.50	11,705
Japanese	14	57,808	67,688	87,835	56,613	69,611.63	67,011
Norwegian	16	54,067	66,630	84,846	53,531	67,337.80	103,062
Panaman	5	10,817	11,791	16,094	10,090	13,403.05	6,000
Peruvian	7	8,881	17,013	26,770	13,723	11,082.30	8,758
Spanish	1	1,896	2,310	3,811	2,784	2,370.00	4,859
Swedish	4	13,293	18,110	17,732	13,429	16,616.25	22,449
United States	120	474,913	598,076	746,709	464,996	555,377.11	651,015
Totals, November, 1922	294	1,062,725	1,337,280	1,669,486	1,044,833	1,264,436.54	1,426,860
Totals, October, 1922	294	1,049,258	1,310,392	1,652,435	1,042,966	1,255,508.00	1,445,863
Totals, November, 1921	222	753,697	942,411	1,184,157	752,886	923,048.70	855,440

A further classification of the commercial traffic through the Canal during November follows:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger ships:						
Laden	109	484,349	$469,210.05	128	542,185	$533,590.30
Ballast	15	67,510	54,188.65	.....	.....	.....
Tankers:						
Laden	5	25,313	26,195.00	13	75,124	76,510.00
Ballast	16	101,673	73,448.28	5	25,008	18,005.76
Passenger ship	1	16,037	13,237.50	.....	.....	.....
Tugs	2	81	51.00	.....	.....	.....
Totals	148	694,963	636,330.48	146	642,317	628,106.06
Steamers	138	658,104	601,059.48	135	591,366	578,872.31
Motor ships	8	34,992	33,842.50	10	50,879	49,155.00
Motor schooners	2	1,867	1,428 50	1	72	78.75
Totals	148	694,963	636,330.48	146	642,317	628,106.06

VESSELS WITHOUT CARGO.

The number of ships in ballast transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger ships:						
British	7	34,620	$27,034.56	.....	.....	.....
Danish	1	3,477	2,503.44	.....	.....	.....
Japanese	1	5,979	4,304.88	.....	.....	.....
Panaman	2	8,151	9,081.25	.....	.....	.....
United States	4	15,283	11,264.52	.....	.....	.....
Tankers:						
British	3	13,753	9,902.16	4	18,062	13,004.64
United States	13	87,920	63,546.12	1	6,946	5,001.12
Totals	31	169,183	127,636.93	5	25,008	18,005.76

The 2 Panaman vessels listed above paid tolls at the laden rate owing to their carrying more fuel than the maximum amount allowed at the ballast rate.

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during November, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these launches, although paying tolls, are excluded from the statements of commercial traffic:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.	Tolls.	No. of ships.	Tonnage.	Tolls.
U. S. Navy vessels:						
Barge	1	[1] 500	$250.00	.....	.....	.....
Brig	1	[2] 166	207.50	.....	.....	.....
Cruisers	2	[1] 7,600	3,800.00	2	[1] 7,600	$3,800.00
Submarine	1	[1] 845	422.50	.....	.....	.....
Transport	1	[2] 3,453	4,361.25	2	[2] 33,800	16,900.00
Mine planter	1	[1] 4,400	2,200.00	1	[1] 4,400	2,200.00
Tugs	3	[1] 2,500	1,250.00	3	[1] 2,450	1,225.00
U. S. Army vessels:						
Transport	1	[2] 3,908	4,885.00	.....	.....	.....
Mine planter	.....	.....	.....	1	[2] 46	57.50
Launches	3	[3] 12	13.10	2	[3] 4	2.25
Coast and Geodetic Survey ship	.....	.....	.....	1	[2] 115	143.75
Totals	14	.....	17,389.35	12	.....	24,328.50

[1] Displacement tonnage. [2] Registered net tonnage. [3] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried cargo as follows:

	Tons.
Atlantic to Pacific	4,493
Pacific to Atlantic	3,370

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of November, 1922, are shown in the following tabulations:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	42,450	24,590	67,040
Local cargo shipped	tons	3,137	7,421	10,558
Transit cargo arriving	tons	1,463,669	1,449,635	2,913,304
Transit cargo clearing	tons	1,457,660	1,458,735	2,916,395
Cargo received for transshipment	tons	18,547	424	18,971
Cargo transshipped	tons	18,256	1,030	19,288
Vessels supplied with bunker coal:				
U. S. Army vessels		1	1	2
Commercial, other than Panama Railroad vessels		65	6	71
Panama Railroad vessels		2	.....	2
Total vessels supplied with coal		68	7	75
Coal supplied to above vessels:				
U. S. Army vessels	tons	38	53	91
Commercial, other than Panama Railroad	tons	12,886	2,023	14,909
Panama Railroad vessels	tons	800	.....	800
Total coal supplied to vessels	tons	13,724	2,076	15,800
Coal issues, miscellaneous:				
Panama Canal departments	tons	277	3	280
U. S. Army, excepting vessels	tons	203	.....	203
Individuals and companies	tons	241	29	270
Total coal issues from Panama Canal deposits:				
November, 1922	tons	14,445	2,108	16,553
October, 1922	tons	14,671	1,639	16,310
November, 1921	tons	15,878	1,962	17,840
Coal on hand, December 1, 1922	tons	105,352	.....	105,352
Coal on hand, November 1, 1922	tons	119,797	889	120,686
Borrowed from U. S. Navy	tons	.....	1,219	1,219
Fuel oil issues from Panama Canal tanks:				
Panama Canal departments	bbls	7,650	19,670	27,320
Panama Railroad Co.	bbls	213	.....	213
U. S. Army and Navy	bbls	1,319	74	1,393
Total issues and sales	bbls	9,182	19,744	28,926
Fuel oil on hand, December 1, 1922	bbls	48,921	82,885	131,806
Fuel oil on hand, November 1, 1922	bbls	58,103	34,210	92,313
Fuel oil received in November, 1922	bbls	.....	68,569	68,569
Transferred from manifold	bbls	.....	23	23
Borrowed from West India Oil Co.	bbls	.....	58	58
Returned to West India Oil Co.	bbls	.....	231	231
Diesel oil issued during November, 1922	bbls	19	.....	19
Diesel oil sold during November, 1922	bbls	33	.....	33
Diesel oil on hand, December 1, 1922	tons	44,969	853	45,822
Transferred to manifold	bbls	.....	24	24
Oil pumped for individuals and companies	bbls	246,608	210,420	457,028
Miscellaneous transfers	bbls	25,380	.....	25,380
Total oil handled	bbls	281,222	305,652	586,874
Admeasurement certificates of vessels:				
U. S. equivalent issued or made		25	15	40
Measured for Panama Canal net tonnage		2	3	5
Remeasured for Panama Canal net tonnage		28	12	40
Panama Canal net tonnage corrected		10	2	12
U. S. equivalent tonnage corrected		22	10	32
Services for harbor equipment:				
Tugs, total operating hours		356	189	545
Launches, total operating hours		1,210	1,219	2,429
Scows, total operating hours		.....	48	48

	Cristobal.	Balboa.	Total.
Revenues from tug service, pilotage, etc.:			
Tug service	$10,600.00	$5,390.00	$15,990.00
Launch service	1,424.00	1,817.00	3,241.00
Pilotage	12,091.00	5,157.00	17,248.00
Seamen	4,872.00	4,824.00	9,696.00
Wharfage	.....	4,108.90	4,108.90
Ships measured	50.00	150.00	200.00
Miscellaneous cash collections	1,885.35	698.00	2,583.35
Vessels repaired at Panama Canal shops:			
Commercial	24	17	41
U. S. Army and Navy	5	6	11
Canal equipment	10	26	36
Vessels dry-docked:			
U. S. Army and Navy	3	3	6
Canal equipment	2	7	9
Clearances issued	190	165	355
Bills of health issued	193	167	360

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during November, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	361	2,000,880	1,268,410	312	1,751,567	1,099,780
Vessels entering port but not transiting the Canal	63	267,583	163,910	11	49,782	31,666
Vessels transiting Canal and handling passengers or cargo	57	280,477	167,286	44	202,070	125,263
Ships clearing.						
All vessels, including those transiting Canal	352	1,978,731	1,253,917	312	1,760,054	1,104,186
Vessels entering port but not transiting the Canal	55	262,501	159,248	10	49,625	31,509
Vessels transiting Canal and handling passengers or cargo	55	259,152	154,605	44	202,070	125,263

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of November, 1922:

	At Cristobal.			At Balboa.		
	First-class.	Others.	Total.	First-class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,043	848	1,891	4	.....	4
From Pacific ports	113	60	173	87	38	125
Total disembarking	1,156	908	2,064	91	38	129
Embarking:						
For Atlantic ports	731	837	1,568	.....	.....	.....
For Pacific ports	203	34	237	60	113	173
Total embarking	934	871	1,80[illegible]	60	113	173
Remaining on board vessels:						
From Atlantic to Pacific ports	1,039	1,578	2,61[illegible]	927	2,027	2,954
From Pacific to Atlantic ports	284	392	676	364	481	845
From Atlantic to Atlantic ports	397	741	1,138	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	11	556	567
Total remaining on board	1,720	2,711	4,431	1,302	3,064	4,366
Total passengers arriving	2,876	3,619	6,495	1,393	3,102	4,495
Total passengers departing	2,654	3,582	6,23[illegible]	1,362	3,177	4,539

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of November, 1922:

	Ice.	Cold storage.	Groceries.	Laundry.	Miscellaneous.	Total.
Sales at Cristobal to:						
U. S. Government vessels..	$170.55	$917.52	$443.25	.....	$116.85	$1,948.17
Panama Railroad vessels...	4.05	2,284.95	7.01	.....	373.90	2,669.91
Other commercial vessels..	720.20	9,596.08	3,767.61	.....	1,116.85	15,200.74
Total sales, November, 1922.....	894.80	12,798.55	4,217.87	.....	1,907.60	19,818.82
Total sales, October, 1922.....	1,095.83	15,693.18	4,375.96	.....	1,420.17	22,585.14
Total sales, November, 1921.....	1,449.64	21,260.75	5,296.31	.....	1,528.98	29,535.68
Sales at Balboa to:						
U. S. Government vessels..	125.23	9,661.00	1,040.40	$30.85	416.38	11,273.86
Other commercial vessels..	287.70	4,490.02	834.68	.....	1,097.86	6,710.26
Total sales, November, 1922.....	412.93	14,151.02	1,875.08	30.85	1,514.24	17,984.12
Total sales, October, 1922.....	534.06	15,854.09	5,914.93	379.80	1,105.04	23,787.92
Total sales, November 1921.....	365.22	6,015.29	598.34	2,882.26	198.64	10,059.75

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of November, 1922, as compared with the preceding month and with the corresponding month of last year:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Nov. 1922.	Oct. 1922.	Nov. 1921.
Gatun.....	145	142	287	8	5	13	300	297	226
Pedro Miguel.....	147	146	293	13	13	26	319	319	256
Miraflores.....	147	145	292	11	13	24	316	317	255
Number of vessels put through locks.									
Gatun.....	149	150	299	13	15	28	327	344	258
Pedro Miguel.....	147	148	295	30	27	57	352	357	300
Miraflores.....	147	148	295	33	33	66	361	357	298

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels.....	18	20	25
Canal equipment.....	10	37	41

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages.....	1,222,670,000	1,187,890,000	943,300,000
Leakage.....	25,000,000	22,000,000	20,000,000
Maintenance.....	.....	.....	4,920,000
Total consumption, November, 1922.....	1,247,670,000	1,209,890,000	968,220,000
Total consumption, October, 1922.....	1,217,140,000	1,173,170,000	987,390,000
Total consumption, November, 1921.....	869,420,000	894,560,000	850,440,000

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of November, 1922, are shown in comparative form:

Rainfall.	November, 1922.	November, 1921.	November—Years of Record.		
			Maximum.	Minimum.	Mean.
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Total rainfall for month:					
Pacific Section	11.62	7.59	19.62	5.64	10.55
Central Section	12.34	12.08	30.40	7.47	13.82
Atlantic Section	17.77	23.25	38.48	6.70	21.62
Maximum recorded on any one day	8.83	9.35	[1] 10.86	.....	.....
Gatun Lake watershed	13.15	15.00	35.74	9.60	14.50
Chagres River watershed above Alhajuela	16.90	16.95	40.48	9.15	17.98
Maximum recorded for month at any one point	33.94	33.29	45.03	.....	.....
Minimum recorded for month at any one point	3.53	3.45	....	2.87	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	5,875	4,176	11,300	2,267	4,642
Maximum momentary discharge for the month	35,995	24,950	[2] 170,000	.....	.....
Gatun Lake watershed total yield	14,273	12,061	24,488	8,673	13,490
Gatun Lake watershed net yield	13,869	11,660	23,950	7,995	13,010
Draft on Gatun Lake for lockages and power	2,265	2,125	2,348	537	1,751

[1] This represents the maximum 24 hour rainfall recorded on the Canal Zone and immediate vicinity since American occupation. Recorded at Porto Bello on December 28-29, 1909. [2] This figure represents the maximum momentary discharge on record, occurring on December 26, 1909.

NOTE.—Camgandi, Gulf of San Blas, is included in this report, having the maximum daily and monthly rainfall for the current month.

SEISMOLOGY.

Seismic tremors were recorded on the 7th, 10th, 11th, and 17th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

		November, 1922.	October, 1922.	November, 1921.
Gross output, K. W. H.:				
Gatun hydroelectric station		4,378,700	4,359,300	4,853,900
Miraflores steam plant		5,890	70	400
Power distributed to consumers	KWH	3,782,968	3,739,916	4,137,872
Loss of power in plant auxiliaries, transmission and transformation	KWH	601,622	619,954	716,428
Per cent of loss of power to gross output	.....	13.72	14.21	17.3
Water consumption	cubic feet	3,460,786,062	3,455,426,514	3,779,696,146
Oil consumption	barrels	1,419	1,381	1,827

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 39 vessels at Cristobal and 49 at Balboa. Of these, 5 were placed in dry dock at Cristobal, and 10 at Balboa. The more important repair work performed included the follows: The U. S. S. *O–11* was docked, cleaned and painted; strut bearings were examined, stern tube clearances taken and minor repairs made to hull; sea valves were ground; gauges, voltmeters, and ammeters were calibrated; superstructure flood and vent valves removed and the superstructure made free flooding; additional impulse tank in superstructure was installed; hydroplanes were removed and openings in hull closed; large bow planes were installed; renewed bridge deck around periscope and cut-water, as well as plates on sides of superstructure.

The submarine *O–13* was docked and a program of overhaul and alterations commenced similar to those performed on the *O–14* and *O–16*.

Rudder repairs were made to the tug boat *Mariner*, the stern frame welded in two places and the low pressure cylinder bushed.

The dredge *Gamboa* was docked and the pontoons lowered into place for widening her hull.

Alterations to the crane boat *La Valley* were well advanced.

On the steamship *Bethore* a welding job was performed comparable to the welding repairs made on the seized German steamers, which attracted so much attention during the World War. This vessel developed cracks on each side of her starboard high

pressure cylinder, extending through the cylinder walls and running back into the valve chest. The longest of these cracks was about 2 feet long. The cylinder was effectively welded in place by the electric process and held the full boiler pressure tightly.

During the month construction was completed of the motor car train for Panama-Pedro Miguel service. Motor car *No. 7* was altered by enlarging the chassis, constructing a large passenger body, and altering the drive proper to the new service. A trailer was constructed, the running gear built from parts of old French rolling stock. The combined unit seats about 60 passengers, and will readily make 45 miles per hour on tangent level track, and 25 miles per hour over Summit Hill.

The output of the foundry in patterns and castings for November, 1922, as compared with the preceding month, was as follows:

	November, 1922.			October, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	2	230	18,271	6	302	20,056
Steel	1	169	7,683	6	129	13,965
Nonferrous	.....	327	3,887	8	375	4,477

The following is a statement of all jobs and blanket orders issued and completed during the month:

	Uncompleted November 1.	Authorized in November.	Completed in November.	Uncompleted November 31.
Job orders	450	546	573	423
Blanket orders	347	.....	.....	347

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the three filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	November, 1922.	October, 1922.	November, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	634,710,000	655,199,000	648,258,750
Filtration plants	359,932,000	374,462,000	382,858,000
Water consumed by Panama City	84,945,000	85,529,000	93,862,000
Water consumed by Colon	56,028,500	59,548,750	48,221,250
Sales of water to vessels	7,811,311	7,983,967	10,220,274

DREDGING.

A slight general surface movement, which started in the month of October, continued during the month over nearly the entire areas of East and West Culebra slides, due to excessive rains, which blocked the surface drains. Only a small amount of material reached the Canal prism, which was kept clear by the dredges performing regular maintenance work. Cucaracha and Barge Repair slides have been quiescent during the entire month. There was no interference with Canal traffic from slides during the month.

The total excavation during the month of November, 1922, including earth and rock, was 402,200 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Stations.	Equipment.
	Earth.	Rock.			
				Gaillard Cut.	
14,300	1,300	13,000	Maintenance	La Pita improvement project	*Gamboa.*
1,000	100	900	Maintenance	Powderhouse slide	*Gamboa.*
43,400	4,300	39,100	Maintenance	La Pita improvement project	*Paraiso.*
1,800	430	1,350	Maintenance	West Culebra slide	*Cascadas.*
108,100	71,250	36,850	Maintenance	East Culebra slide	*Cascadas.*
				Pacific Entrance.	
11,600	8,400	3,200	Maintenance	East and west side of Canal	*Cascadas.*
222,000	222,000	.....	Maintenance	East and west side of Canal	*No. 86.*
402,200	307,800	94,400			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped in Gatun Lake, north of Gamboa	168,600
Dumped at sea, Pacific entrance	11,600
Fills, east and west sides of Canal, Pacific entrance	222,000
Total	402,200

VITAL STATISTICS.

A total of 155 deaths occurred during the month of November, 1922, among the total population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 15.13 per thousand. The leading causes of death were nephritis (chronic and acute) 24, tuberculosis 21, organic disease of the heart 14, pneumonia (broncho and lobar) 10, diarrhea and enteritis (under 2 years) 10.

Of the total deaths, 63, or 40.6 per cent, occurred among children under 5 years of age. There were 14 deaths among nonresidents of the Isthmus. These are not included in the above statistics.

There were 312 live births reported during the month, and 10 still births. Including stillbirths, this is equivalent to an annual birth rate of 30.46 per thousand population. Deaths among children under 1 year of age numbered 51, giving an infant mortality rate, based on the number of births reported for November, of 163.4 per thousand live births.

Fifteen cases of malaria were reported from Panama, 8 from Colon, 61 from the Canal Zone, and 40 originating outside of our sanitary jurisdiction. Of these cases 10 were employees, 43 soldiers and sailors, and 71 were not in the service of the United States. There were no deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of November 30, 1922.			Comparative totals.		
	Men.	Women.	Children.	November, 1922.	October, 1922.	November, 1921.
Americans	2,295	1,831	1,999	6,125	5,771	7,081
Europeans	86	30	75	191	215	275
West Indians	4,022	2,670	5,874	12,566	12,539	12,711
Totals, November, 1922	6,403	4,531	7,948	18,882	.....	.....
Totals, October, 1922	6,201	4,458	7,766	.....	18,525	.....
Totals, November, 1921	7,612	4,658	7,797	.....	.....	20,067

The following tabulation shows the number of gold and silver employees as of November 15, 1922, with a comparison of the working force for the preceding month and that of November, 1921:

	As of November 15, 1922.			Total employees.	
	Gold.	Silver.	Total.	October, 1922.	November, 1921.
Operation and Maintenance:					
Office	26	35	61	60	62
Electrical	142	140	282	276	315
Municipal Engineering	73	511	584	588	614
Lock Operation	157	523	680	683	727
Dredging	132	769	901	913	873
Mechanical	328	627	955	895	1,219
Marine	155	400	555	563	534
Fortifications	31	85	116	112	222
Totals	1,044	3,090	4,134	4,095	4,566
Supply Department:					
Quartermaster	135	876	1,011	1,050	1,237
Subsistence	6	70	76	74	251
Commissary	157	756	913	923	1,113
Cattle Industry—Plantations	6	141	147	142	180
Hotel Washington	8	78	86	84	91
Transportation	32	138	170	173	.....
Totals	344	2,059	2,403	2,446	2,872

	As of November 15, 1922.			Total employees.	
	Gold.	Silver.	Total.	October, 1922.	November, 1921.
Accounting Department	185	8	193	193	199
Health Department	222	692	914	912	966
Executive Department	470	251	721	721	779
Totals	877	951	1,828	1,826	1,944
Panama Railroad Company:					
Superintendent	45	248	293	260	321
Transportation	62	102	164	151	181
Receiving and Forwarding Agency	64	852	916	624	891
Coaling Stations	81	635	716	686	473
Totals	252	1,837	2,089	1,721	1,866
Grand totals, November, 1922	2,517	7,937	10,454	.....	.....
Grand totals, October, 1922	2,517	7,571	.....	10,088	.....
Grand totals, November, 1921	2,906	8,342	.....	.....	11,248

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of November, 1922, cash sales from stock, etc., are shown below in comparative form:

	November, 1922.	October, 1922.	November, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and Maintenance	$169,596.37	$89,645 09	$41,683.19
Miscellaneous Departments	3,589.83	3,843.15	3,866.24
Totals	173,186.20	93,488.24	45,549.43
Cash sales on the Isthmus:			
Stock	23,611.74	22,732 47	20,416.26
Fuel oil	364.38	377.21	818.65
Scrap	612.42	691.28	617.57
Obsolete and second-hand material	5,840.64	8,819.00	1,964.37
Totals	30,429.18	32,619 96	23,816 85

Respectfully,
M. L. WALKER,
Acting Governor.

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs for the week ended December 23:

Motor boat *Lobos*, install air compressor furnished by Pacific Steam Navigation Company, and manufacture miscellaneous small parts in connection with installation; steamship *Grange Park*, repair 1 copper auxiliary pipe; motor boat *Chiralite*, remove present main engines complete, with all connections; place on skids and secure in ship; unpack, assemble and install 2 new main engines, complete; repair rudder chain and steering gear; repair galley range.

PREVIOUSLY REPORTED.

Dredge *Gamboa*, installation of auxiliary pontoons and work incident to the installation and miscellaneous repairs; barge *No. 47*, dock, stage, and clean and paint; U. S. submarines *O–13*, dock, stage and clean, painting and routine docking repairs; *O–14*, dock, stage, clean and paint; routine docking repairs; craneboat *La Valley*, dock, stage, and clean, paint underwater body; general repairs and alterations; D. B. *L–55*, remove from rocks, tow to Balboa shops; place on dock; remove engine and hull sheathing in way of damages; Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck house; motor ship *Ligia*

Elena, remove boat from water and place on dock preparatory to installation of new engine.

The following vessels were at the Cristobal shops for repairs during the week ended December 23:

Steamships *Manavi*, fit sleeve in port cylinder of anchor windlass; rekey disk on steering engine driving shaft; weld flanging on boiler manhole and renew floor plate in fire room; repair davit, handrail, handle on fresh water pump, lifeboat chocks, scale and purchase blocks; *Ville de Tamative*, manufacture 2 new fire doors, fire door bolts, and 2 slice bars, etc.; *Salvador*, clean No. 3 tank and cement wash same; repair No. 1 main deck hatch, forecastle ports, sanitary piping, and 5 canvas slings; renew steam pipe casing at No. 1 hatch; remove boiler fronts for inspection; renew fusible plugs in boilers; repair brickwork in furnaces, scaling tools and chisels, bands around boiler lagging and plumbing, etc.; *Matawaska*, renew links in steering chain; schooner *Arabia*, repair stern and make new sail; steamship *Gale*, repair brake of windlass and braze main feed pipe; schooner *Catalina*, manufacture new mast; tug *Porto Bello*, repair towing machine; steamships *Horace Luckenbach*, *Balboa*, and motorship *Laura C. Hall*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending December 23, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Almagro	Pacific Steam Navigation Co		December 17.		679
Antonio Lopez	Spanish Line		December 18.		302½
Abangarez	United Fruit Co	December 17.	December 18.	(1)	354
Breda	Royal Netherlands W. I. Mail	December 17.	December 18.	135	4½
La Paz	Pacific Steam Navigation Co	December 17.	December 18.	18	452
Antiochia	Hamburg-American Line	December 17.	December 18.	49	36
Colon	Panama Railroad Steamship Line		December 19.		2,038
Haiti	French Line	December 18.	December 21.	11	508
Manavi	Pacific Steam Navigation Co	December 18.		838	
Ethan Allen	Tampa Interocean S. S. Co	December 19.	December 20.	350	(2)
Pastores	United Fruit Co	December 19.	December 20.	299	415
San Gil	United Fruit Co	December 19.	December 20.	20	24
Salvador	Pacific Steam Navigation Co	December 19.		603	
Sixaola	United Fruit Co	December 20.	December 21.	114	189
Cartago	United Fruit Co	December 20.	December 21.	1,788	(2)
Laura C. Hall	Pacific Metals Corp	December 20.	December 22.	27	5
Abangarez	United Fruit Co	December 21.	December 21.	½	90
South American	American Metals Transport. Co	December 21.	December 21.	6	(2)
Metapan	United Fruit Co	December 21.	December 21.	(3)	309
Ucayali	Peruvian Line		December 21.		558
Duendas	Pacific Steam Navigation Co	December 21.	December 22.	(1)	746
Bayano	Eller & Fyffes, Ltd	December 22.	December 22.	5	(2)
Ballena	Pacific Steam Navigation Co	December 23.	December 23.	(1)	205

[1] No cargo discharged. [2] No cargo laded. [3] 150 pounds.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 23, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Manavi	Pacific Steam Navigation Co	December 18.	December 18.	2	
Almagro	Pacific Steam Navigation Co	December 17.	December 17.		2
Ethan Allen	U. S. Shipping Board	December 17.	December 19.	205	
Salvador	Pacific Steam Navigation Co	December 18.	December 18.	1	
Laura C. Hall	Pacific Metals Corp	December 19.	December 20.	51	50
Darien	H. Obarrio & Co	December 22.	December 23.	10	110
Unita	H. Wrangell & Co	November 30.	December 22.	693	

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 23, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
David McKelvy	16	20.00	17	6.25	17	15.36	17	16.38	American	Tidewater Oil Co	430.0	59.2	18.0	New York	Los Angeles	Ballast		7,629	5,393
Steel Inventor	17	3.55	17	7.34	17	16.30	17	17.27	American	U. S. Steel Products Co	425.0	54.0	25.10	New York	Vancouver	General, steel	7,800	7,611	5,450
Iowan	17	4.20	17	8.55	17	19.10	17	20.12	American	American-Hawaiian Line	407.7	53.7	23.0	New York	Los Angeles	General	6,326	7,091	5,002
Siberian Prince	17	7.47	17	9.25	17	20.13	17	21.32	British	Prince Line, Ltd	423.0	56.0	22.0	Antwerp	Vancouver	General	5,119	6,267	4,565
Lake Bridge	15	18.10	17	10.40	17	19.35	17	20.45	American	E. K. Wood Lumber Co	252.0	43.5	15.10	Baltimore	Vancouver	Coal	1,077	2,291	1,486
Almagro	16	6.30	17	10.43	17	19.00	17	21.47	British	Mac Andrews & Co	303.0	43.0	19.1	New York	Guayaquil	General, salt	2,217	2,878	1,714
Launch from U. S. S. Quail			17		17	9.32	18		American	U. S. Navy				Cristobal	Gatun				
Culna	18	7.30	18	7.50	18	15.04	18	17.15	British	British India Steam Nav. Co.	430.5	54.2	26.6	New Orleans	Adelaide	General	6,750	6,372	4,274
Sciota[1]	16	15.20	18	7.50	18	17.13	18		American	U. S. Navy	155.0	30.0		Cristobal	Balboa	Towing barge			
Viborg	18	7.52	18	8.55	18	17.29	18	19.00	Danish	Dannebrog Steamship Co	283.4	42.1	13.0	Cienfugeos	Iquique	Ballast		2,578	1,795
Port Elliot	18	7.58	18	10.35	18	18.15	18	21.00	British	Commonwealth & Dom. Line	471.0	58.4	24.6	London	Wellington	General	3,100	9,775	6,840
Breda	17	3.18	18	10.54	18	19.50	18	21.00	Dutch	Royal Netherlands W. I. Mail	402.5	58.3	19.6	Antwerp	Guayaquil	General	3,500	7,384	5,226
Westmoreland	18	9.45	19	6.23	19	14.48	19	15.44	British	Federal Steam Navigation Co	473.0	60.0	30.5	Liverpool	Dunedin	General	8,376	10,385	7,505
Commercial Guide	18	18.17	19	7.28	19	16.21	19	22.07	American	Nyanza Steamship Co	406.7	55.2	24.8	New York	Seattle	General, coal	5,400	6,597	4,752
Georgian	18	20.30	19	8.47	19	17.17	19	18.28	American	American-Hawaiian Line	386.8	52.2	22.4	Philadelphia	Seattle	General	5,864	5,719	4,023
Cardita	20	6.55	20	7.35	20	15.01	20	19.55	British	Anglo-Saxon Petroleum Co	400.3	52.2	21.0	Las Palmas	Los Angeles	Ballast		6,023	4,111
Nordkap	20	7.15	20	7.55	20	16.00	20	19.00	Danish	Peter Brown	340.1	42.7	20.6	Norfolk	Taltal	Coal	2,161	3,755	2,712
Pawnee	20	7.30	20	11.55	20	18.06	20	19.30	Panaman	California Steamship Co	389.3	47.6	17.6	Newport News	Eureka	Ballast		5,282	3,863
Devolente	20	12.23	20	12.35	20	19.21	20	20.45	American	Walker & Daily (S. B.)	435.0	56.0	17.6	Galveston	Los Angeles	Ballast		7,613	5,312
Horace Luckenbach	20	18.35	21	6.27	21	13.45	21	14.50	American	Luckenbach Line	445.0	58.0	22.11	New York	Los Angeles	General	6,569	8,626	6,290
Santa Elisa	20	19.12	21	7.06	21	15.15	21	16.17	American	Grace Line	360.0	51.7	24.3	New York	Talcahuano	General	2,434	5,957	4,325
Charlton Hall	21	6.30	21	7.55	21	16.10	21	23.18	American	U. S. Steel Products Co	400.0	50.0	25.5	Baltimore	Seattle	General, steel	6,611	5,714	4,161
Samuel Q. Brown	21	8.05	21	9.00	21	16.59	21	15.10	American	Tidewater Oil Co	424.4	58.2	19.0	New York	Los Angeles	Ballast		7,333	5,246
Nordfarer	21	6.50	21	9.10	21	18.35	22	23.59	Danish	Peter Brown	363.5	47.4	14.1	Newport News	Iquique	Ballast		4,289	3,106
Ucayali	16	21.58	21	10.45	21	19.18	21	22.35	Peruvian	Peruvian Line	374.0	46.0	18.10	Cristobal	Callao	General	558	4,466	2,405
Grange Park	21	8.48	21	11.15	21	20.12	22	14.38	British	J. and J. Denholm	400.4	52.3	17.3	Cardiff	Pisagua	Ballast		5,710	4,022
Laura C. Hall[2]	20	18.35	22	6.13	22	15.21	23	9.45	British	Pacific Metals Corp	81.0	26.0	9.0	Cristobal	Buenaventura	General	5	132	72
Jersey City	21	15.55	22	6.30	22	13.52	22	15.10	British	W. R. Smith & Sons	411.6	55.0	24.0	Pensacola	Brisbane	Case oil, benzine	6,034	6,466	4,520
Gale	21	7.10	22	7.50	22	15.25	22	19.00	British	David Chackson Twinbull	167.4	26.6	14.0	Barry Docks	Dunedin	Ballast		690	394
Duendes	21	9.58	22	9.40	22	16.21	22	17.40	British	Pacific Steam Navigation Co	390.0	50.0	23.7	Glasgow	Valparaiso	General	3,736	6,006	4,287
Cayuca 2136[3]	21		22		22	8.28			Panaman	Ernesto Triana				Gatun	Cristobal			2	2
Fukuyo Maru	22	6.37	22	11.1[illegible]	22	18.24	23	4.30	Japanese	Toyo Kisen Kaisha	400.0	53.0	24.8	Boston	Yokohama	General	5,492	5,911	4,349
Huftero	22	13.16	23	6.2	23	16.40	23	17.41	Norwegian	Henrik Ostervold	380.4	52.3	24.10	New York	Yokohama	General	6,200	5,517	3,937
Sirius	20	10.55	23	7.0[illegible]	23	17.16			American	U. S. Navy	390.0	54.0	19.0	Hampton R'ds	Bremerton	Navy stores	1,763		

[1] Tug. [2] Motor schooner. [3] *Escoval.*

Steclore	23	2.35	23	7.55	23	18.19	23	19.24	American	Ore Steamship Co.	550.3	72.2	26.0	New York	Cruz Grande	Ballast		15,551	4,411
Alvarado	23	3.37	23	8.47	23	20.15	24	0.15	American	Pacific Transport. Co	245.0	41.5	17.3	New Orleans	San Francisco	General	2,400	2,122	1,504
Blue Triangle	23	5.00	23	13.05	23	20.07	23	21.15	American	N. Atl. & West. S. S. Co. (S. B.)	390.0	54.2	17.6	Boston	Seattle	General	2,401	6,209	4,317

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Woron	16	17.45	17	7.03	17	14.57	17	15.48	British	Glover Brothers	420.8	54.5	25.6	San Francisco	Queenstown [a]	Barley	7,093	6,351	4,500
Feliz Taussig	17	1.20	17	7.55	17	15.17	17	15.17	American	Crowell & Thurlow	395.0	55.1	27.3	Everett	Boston	Lumber, copper	3,877	6,594	5,403
Washington Maru	17	1.30	17	8.24	17	16.13	17	16.13	Japanese	Kokusai Kisen Kaisha	385.0	51.0	26.1	Vancouver	United King.	Wheat	7,233	5,919	4,400
Alda	17	3 00	17	8.33	17	17.27	17	22.40	German	Roland Line	361.0	51.0	23.0	Corral	Hamburg	General	5,750	4,791	3,392
Robin Gray	17	9.15	17	9.58	17	17.40	17	17.40	American	Seas Shipping Co	424.8	55.0	23.0	San Francisco	New York	Canned goods	6,945	7,472	5,542
Chuky	17	9.00	17	10.57	17	18.08	17	20.20	British	Chile Steamship Co	440.8	56.0	14.3	Tocopilla	Tampico	Ballast		7,636	4,942
La Paz	17	10.00	17	11.44	17	21.45	18	17.00	British	Pacific Steam Navigation Co	406.0	54.2	26.2	Valparaiso	Hull	General	7,780	7,216	4,912
Ville de Tamative	17	11.15	17	12.35	17	22.32	21	14.30	French	Quartier	365.0	45.6	20.0	Tahiti	Marseilles	General	4,700	4,171	3,046
Manavi	18	5.00	18	8.03	18	15.08			British	Pacific Steam Navigation Co	216.0	35.1	14.5	Guayaquil	Cristobal	General	838	1,357	884
Antonio Lopez	13		18	10.44	18	17.45	19	0.15	Spanish	Spanish Line	422.0	50.0	23.6	Balboa	Barcelona	Ballast		6,635	4,610
Canadian Explorer	18	9.30	18	11.00	18	20.14	18	22.45	British	Canadian Government	400.0	52.0	19.6	Adelaide	Halifax	General	3,000	5,841	4,046
Montrolite	18	10.30	18	11.36	18	20.57	18	22.43	British	Imperial Oil Co	421.0	57.3	24.6	Talara	Habana	Oil	8,190	7,378	5,114
Virginian	18	14.00	18	14.39	18	23.20	19	2.50	American	United American Lines	491.5	58.2	30.3	Seattle	Hamburg	General	10,500	10,491	7,546
Lewis Luckenbach	18	15.17	19	7.02	19	14.17	19	14.17	American	Luckenbach Line	496.0	68.2	28.5	San Francisco	Boston	General, lumber	10,386	11,487	8,762
Ethan Allen	17	14.15	19	7.18	19	16.00	20	1.20	American	Tampa Interocean Steamship Co	439.6	60.0	26.0	Saigon	New York	General	10,448	8,987	6,534
Pacific	18	17.00	19	8.17	19	16.27	19	16.27	American	Argonne Steamship Co	399.7	56.2	25.0	Vancouver	New York	General	7,900	6,479	4,709
Madawaska	19	8.45	19	9.40	19	18.05	20	4.35	British	Burns and Phillips	370.6	51.1	20.0	Apia	Hamburg	Copra	4,567	5,481	4,174
Sciota			19	9.53	19	17.35	27	6.25	American	U. S. Navy	155.0	30.0		Balboa	Cristobal				
H. M. Storey	19	10.30	19	12.05	19	19.30	19	19.30	American	Standard Oil Co	500.0	68.2	29.0	Los Angeles	New York	Oil	15,000	11,224	7,849
Salvador	19	4.50	19	8.25	19	16.30	24	7.30	British	Pacific Steam Navigation Co	225.0	35.4	14.9	San Jose	Cristobal	Coffee, general	682	1,270	735
Narenta	19	9.45	20	7.05	20	14.45	20	14.45	British	Royal Mail Steam Packet Co	449.0	58.0	24.0	Seattle	Southampton	Canned fruits	4,854	8,856	6,559
Santa Rosa	19	18.25	20	7.45	20	16.20	20	19.40	American	Grace Line	404.6	54.0	28.4	Tocopilla	Charleston	Nitrate	8,730	6,754	6,780
Pear Branch	19	18.30	20	8.02	20	17.43	20	20 55	British	Gulf Line	398.0	53.9	22.7	Antofagasta	Liverpool	Nitrate, copper	5,901	5,760	3,866
John Worthington	19	22.50	20	8.49	20	17.10	20	18.10	American	Standard Oil Co	462.0	60.2	25.10	Campana	New York	Naphtha	10,483	8,491	6,096
Atlantic Maru	20	7.00	20	9.40	20	18.52	21	0.10	Japanese	Kawasaki Steamship Co	385.0	51.0	24.0	Vancouver	Rotterdam	General	7,393	6,251	4,700
Laura C. Hall	19	16.00	20	10.05	20	18.35	22	6.13	British	Pacific Metals Corp	81.0	25.0	9.0	Buenaventura	Cristobal	General	27	132	72
South American	20	16.00	21	7.06	21	14.30	21	18.40	British	American Metal Transport Co	251.0	43.6	18.0	Callao	New York	General	2,380	2,444	1,593
Panuco	20	20.40	21	7.40	21	14.40	21	14.40	American	United American Lines	351.7	47.9	21.0	Seattle	Mobile	Nitrate	3,361	4,226	2,848
Texas	21	9.45	21	10.41	21	19.23	21	20.50	Danish	United Steamship Co	374.8	49.9	23.0	Iquique	Europe	Nitrate	6,100	4,817	3,515
Australier	21	13.00	21	13.58	21	22.05	22	6.38	Belgian	Lloyds Royal Belge	400.1	52.0	25.0	Antofagasta	Las Palmas	Nitrate	7,500	5,750	3,988
Saint Patrick	21	16.30	22	7.04	22	14.38	22	15.35	British	Rankin Gilmoure	381.0	49.0	24.3	Callao	Marseilles	Sugar	6,496	5,457	4,174
Unita	1-29		22	11.10	22	18.58	22	18.58	Norwegian	Colombia Pacific Steamship Co	338.0	48.0	15.0	Balboa	Mobile	Ballast		3,999	2,924
Edward Luckenbach	22	18.30	23	6.55	23	13.45	23	13.45	American	Luckenbach Line	436.1	57.0	29.0	San Pedro	New York	General, lumber	8,200	8,543	6,426
Lobos	21	8.45	23	7.58	23	15.53	23	16.40	British	Pacific Steam Navigation Co	404.7	54.2	28.0	Valparaiso	Hull	General	8,273	7,151	4,756
Diadem	22	20.15	23	8.03	23	17.10	23	18.00	British	Hall Brothers	390.0	54.0	24.6	Mejillones	Balboa [a]	Nitrate	7,600	5,918	4,142

[a] For orders

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Norman Monarch	22	20.00	23	8.48	23	18.00	23	19.55	British	Kinsley Lines, Inc.	400.0	52.0	24.6	Mejillones	Savannah	Nitrate	7,704	5,568	4,146
Ballena	23	8.00	23	10.11	23	18.30	24	2.15	British	Pacific Steam Navigation Co.	400.0	52.0		West coast	United King.	General	6,712	5,816	4,113
Songvand	23	9.30	23	11.06	23	18.50	23	22.00	Norwegian	Ardmore Steamship Co.	330.0	47.3	21.4	Iquique	Philadelphia	Nitrate	4,650	3,783	2,565
Agwilake	23	9.00	23	13.45	23	23.23	23	23.23	American	New York & Cuban S. S. Co.	468.0	62.7	27.0	Los Angeles	Philadelphia	Oil	12,481	10,108	7,463

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
December 17.	Abangarez	United Fruit Co.	New Orleans via Habana.
December 17.	Antiochia	Hamburg-American Line	Hamburg via wayports.
December 18.	Haiti	French Line	St. Nazaire and wayports.
December 19.	San Gil	United Fruit Co.	Boston via Habana.
December 19.	Pastores	United Fruit Co.	New York via Habana.
December 20.	Cartago	United Fruit Co.	New Orleans via Habana.
December 20.	Sixaola	United Fruit Co.	New York via Kingston.
December 20.	Arabia[s]	Panama Plantation Syndicate	Colon.
December 21.	Metapan	United Fruit Co.	Colombian ports.
December 21.	Abangarez	United Fruit Co.	Bocas del Toro.
December 22.	Bayano	Elders & Fyffes, Ltd.	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
December 18.	Antiochia	Hamburg-American Line	Port Limon.
December 18.	Abangarez	United Fruit Co.	Bocas del Toro.
December 19.	Colon	Panama Railroad Steamship Line	New York via Haiti.
December 20.	Pastores	United Fruit Co.	New York via wayports.
December 20.	San Gil	United Fruit Co.	Boston via Port Limon.
December 21.	Sixaola	United Fruit Co.	Colombian ports.
December 21.	Metapan	United Fruit Co.	New York via Kingston.
December 21.	Cartago	United Fruit Co.	New Orleans via wayports.
December 21.	Abangarez	United Fruit Co.	New Orleans.
December 21.	Haiti	French Line	St. Nazaire and wayports.
December 22.	Bayano	Elders & Fyffes, Ltd.	Kingston.

[s] Motor schooner.

PORT OF BALBOA.

December 16.	Sinaloa	Latin-American Line	Portland.	December 17.	Sinaloa	Latin American Line	Eten.
December 17.	Chiralite	International Petroleum Co.	Talara.	December 23.	Darien	H. Obarrio & Co.	Buenaventura.
December 17.	Denver	U. S. Navy	Valparaiso.				
December 21.	Darien	H. Obarrio & Co.	Buenaventura.				
December 23.	Anyo Maru	Toyo Kisen Kaisha	Valparaiso.				
December 23.	Regulus	R. S. Silver & Co.	Caldera.				

* Other than ships passing through the Canal.

Garland Steamship Company Reported Entering Intercoastal Trade.

It is reported that the Garland Steamship Company will shortly place 7 large freighters in the United States intercoastal trade through the Panama Canal, and that sailings every 2 weeks will be maintained between New York, Baltimore, and Norfolk and Los Angeles, San Francisco, and Portland.

Four of the Garland Line steamers, the *Albert Jeffress*, the *Carolinian*, the *George Allen*, and the *William Campion*, are now being operated through the Canal in the intercoastal service under charter to various other steamship lines.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective December 27, 1922:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Official Circular.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
BALBOA HEIGHTS, C. Z., December 26, 1922.

To all concerned—All annual passes over the Panama Railroad for the year ending December 31, 1922, will be honored thereafter until further notice.

S. W. HEALD.
Superintendent.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, $1.50 per year; foreign, $2.00; address The Panama Canal Record, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., January 3, 1923. No. 21.

Commercial Traffic Through Canal During Calendar Year 1922.

Commercial traffic through the Panama Canal during the calendar year 1922 exceeded that of any former 12 months' period since the opening of the Canal in number of ships, tonnage, tons of cargo carried and amount of tolls.

A brief summary of the commercial traffic through the Canal during the past year as compared with that for previous calendar years is shown in the following table:

Calendar year.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
[1] 1914	350	1,234,233	$1,508,737.56	1,758,625
[2] 1915	1,154	3,902,532	4,297,437.11	4,893,422
[2] 1916	1,217	3,817,794	3,671,162.68	4,774,822
1917	1,960	6,217,954	6,107,693.63	7,443,610
1918	2,070	6,409,836	6,313,455.39	7,234,159
1919	2,133	6,943,087	6,973,095.30	7,477,945
1920	2,814	10,378,265	10,295,362.21	11,233,119
1921	2,783	11,435,811	11,261,093.80	10,7[illegible]7,005
1922	2,997	12,992,573	12,573,407.77	13,710,556

[1] Canal opened to traffic August 15, 1914. [2] Canal closed approximately 3 months by slides.

Monthly and daily averages of number of ships, Panama Canal net tonnage, tolls, and tons of cargo, during the past 4 years, are shown in the following table:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Average month.				
Calendar year 1919	177.8	578,591	$581,091.28	623,162
Calendar year 1920	234.5	864,855	857,946.85	936,343
Calendar year 1921	231.9	952,984	938,424.90	892,250
Calendar year 1922	249.7	1,082,714	1,047,783.98	1,142,546
Daily average.				
Calendar year 1919	5.84	19,022	19,104.37	20,488
Calendar year 1920	7.69	28,356	28,129.40	30,700
Calendar year 1921	7.62	31,331	30,852.33	29,334
Calendar year 1922	8.21	35,596	34,447.69	37,563

TRAFFIC DURING LAST 6 MONTHS OF CALENDAR YEAR AS COMPARED WITH FIRST 6 MONTHS.

During the last 6 months of the calendar year 1,640 vessels transited the Canal as compared with 1,357 during the first 6 months, giving a monthly and daily average of 273 and 8.9 transits, respectively, for the last 6 months as compared with 226 and 7.5 for the first 6 months of the year.

Tolls for the last 6 months aggregated $7,002,043.38 as compared with $5,571,364.39 for the first 6 months of the year, giving monthly and daily averages of $1,167,007.23 and $38,054.58, respectively, for

the last 6 months as compared with $928,560.73 and $30,781.02 for the first 6 months of the year.

EAST AND WESTBOUND TRAFFIC.

A total of 1,630 vessels transited the Canal from the Atlantic to the Pacific as compared with 1,367 from the Pacific to the Atlantic. In the calendar year 1921, Atlantic-to-Pacific transits numbered 1,451 and Pacific-to-Atlantic transits 1,332.

In tolls, $6,859,866.61 was collected on vessels transiting the Canal from the Atlantic to the Pacific, and $5,713,541.16 on vessels passing from the Pacific to the Atlantic. In the calendar year 1921, tolls on Atlantic-to-Pacific transits aggregated $5,966,567.59, and on Pacific-to-Atlantic transits, $5,294,531.21.

INCREASE IN UNITED STATES INTERCOASTAL TRAFFIC.

United States intercoastal traffic through the Canal in 1922, for both net tonnage and cargo tonnage, was practically double that of the preceding calendar year, and in point of cargo tonnage made up more than 25 per cent of the total traffic through the Canal.

Large Shipment of Molasses in Bulk.

The tanker *Paul Shoup* transited the Canal December 1 with a cargo of 100,000 gallons of lubricating oil in drums, and 6,000 tons of molasses in bulk. The lubricating oil was laden at Philadelphia and the molasses in Cuba. Both commodities were billed for discharge at San Francisco.

This is believed to be the first instance of a tanker carrying molasses in bulk through the Canal.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended December 30:

Steamships *Grelbank*, renew links in steering chains as directed; *Venezuela*, manufacture 4 soft steel valves and 1 piston ring for circulating pump; electric weld port forward boiler, etc.; *Heredia*, patch shell plating and bulwarks where damaged, etc.; *City of Evansville*, manufacture 10 piston rings and braze 1 copper pipe; U. S. S. *R-23*, weld crack in exhaust header.

Executive Order.—Interest on Deposit Money Orders.

By virtue of the authority vested in me by law, the Executive Order of October 22, 1916, providing for the payment of interest on deposit money orders issued in the Canal Zone, is hereby amended to read as follows:

1. Deposit money orders issued by the Canal Zone Postal Service shall bear interest at the rate of three-fourths of one percentum for each period of three full calendar months, from January 1, 1923, or subsequent date of issue. Interest shall be payable when the order is paid but shall not accrue on any order for more than three years.

2. On deposit money orders issued prior to January 1, 1923, interest will be paid as specified in Executive Order of October 22, 1916, except that interest for the period or periods of three full calendar months, ending subsequent to December 31, 1922, shall be paid at the rate of three-fourths of one percentum for each of such periods.

3. The Governor of The Panama Canal is authorized to prescribe such detailed rules and regulations as may be necessary to carry out this order.

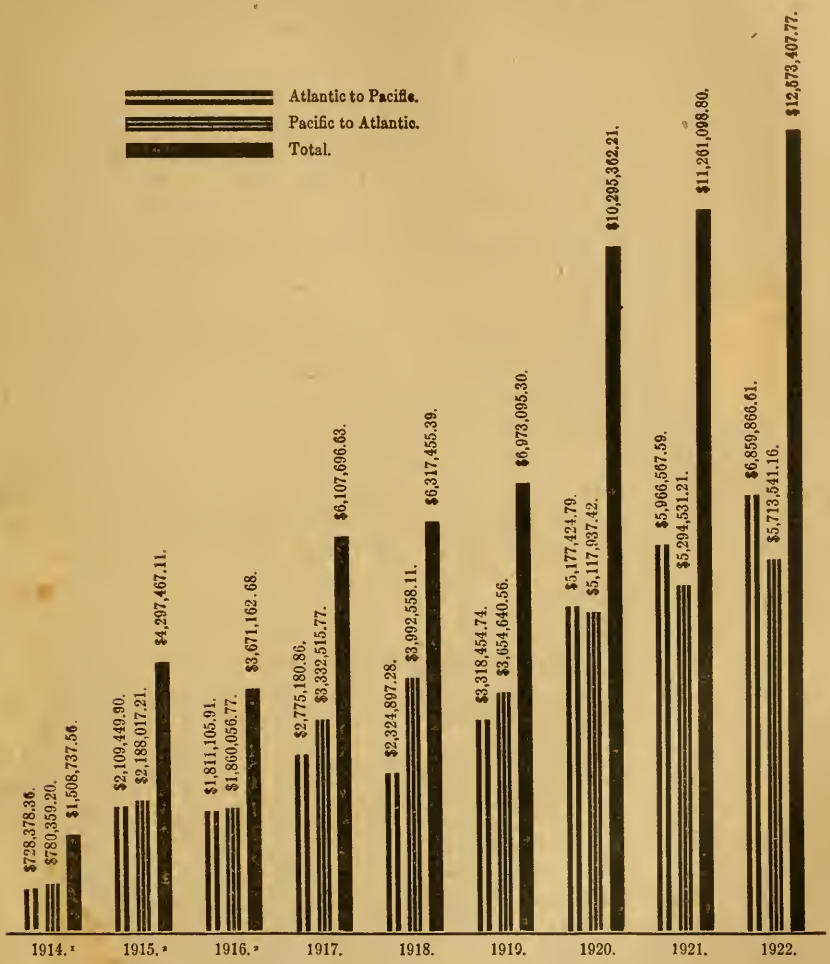
WARREN G HARDING

THE WHITE HOUSE,
Dec. 6, 1922.

[No. 3761.]

Panama Canal Tolls.

The graph below, with accompanying figures, shows the tolls collected on commercial traffic through the Panama Canal for the calendar years 1914 to 1922, inclusive:



[1] Covers period of 4½ months only; Canal opened to traffic August 15, 1914.

[2] Covers approximately 8½ months only; Canal closed by slides from the middle of September, 1915, to the middle of April, 1916.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 30, 1922.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Anyo Maru	Toyo Kisen Kaisha	December 23	December 24	428	.....
Akera	Shell Oil Co.	December 24	December 26	6,974	.....
Ginyo Maru	Toyo Kisen Kaisha	December 25	December 26	8	12
Manavi	Pacific Steam Navigation Co.	December 28	December 28	.....	69
Depere	General Steamship Corporation	December 28	December 29	681	.....
Huasco	South American Line	December 30	December 30	143	7

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 30, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
North American	23	10.45	24	6.12	24	13.37	24	16.00	British	North American Steamship Co.	251.0	43.6	12.11	Barabuna	Buenaventura	General	400	2,444	1,571
Salvador	21	16.30	24	7.30	24	14.22	24	16.55	British	Pacific Steam Navigation Co.	215.0	35.4	16.6	Cristobal	Champerico	General	1,157	1,270	735
Willilo	24	3.48	24	8.15	24	15.35	24	17.05	American	Williams Steamship Co.	434.3	57.7	21.10	New York	Los Angeles	General	5,625	7,983	5,882
Royalstar	24	11.30	24	11.50	24	18.25	25	10.15	British	Royal tar Steamship Co.	450.0	58.5	19.0	London	Seattle	Ballast		8,561	5,815
Garfield	24	8.46	24	13.09	24	19.23	24	20.28	American	Grace Line	299.4	45.0	19.1	New York	Salaverry	General	1,553	3,228	2,010
Ampullaria	24	14.38	25	6.15	25	13.58	25	17.07	British	Anglo-Saxon Petroleum Co.	412.5	53.8	17.0	Rotterdam	San Francisco	Ballast		6,242	4,320
Nobel[1]	25	7.05	25	8.35	25	16.30	25	19.45	Norwegian	Partagas Steamship Co.	140.4	28.4	11.0	Christiania	Salaverry	Explosives	418	396	307
Terrier	25	7.23	25	9.10	25	17.19	25	18.30	Norwegian	W. Wilhelmsen	400.0	52.0	14.8	Wilmington	Taltal	Ballast		5,639	4,161
Mundelta	25	3.15	25	10.20	25	17.56	25	18.58	American	Munson Lines	376.0	53.2	25.6	New York	Los Angeles	General	3,112	5,668	4,297
Vancolite	25	8.44	25	13.05	25	19.52	26	4.42	British	Imperial Oil Co.	500.0	68.0	20.0	New York	Los Angeles	Ballast		11,043	8,130
Monticello	25	22.47	26	6.35	26	14.41	26	17.05	American	American Ship & Com. Nav. Co.	468.0	58.0	26.0	Baltimore	Los Angeles	General	10,000	7,975	5,412
Lydia	26	9.55	26	10.28	26	17.12	26	18.40	American	Lydia Steamship Co.	366.0	48.0	24.0	New Orleans	Los Angeles	General	5,100	4,620	3,343
San Francisco	26	7.50	26	11.00	26	18.28	26	19.50	American	Isthmian Steamship Line	405.0	51.9	26.4	New York	Vancouver	General	7,300	6,186	4,449
Delaware Sun	26	13.12	26	13.25	26	19.55	26	23.48	American	Sun Steamship Co.	480.5	66.0	21.0	Philadelphia	Los Angeles	Ballast		9,402	6,586
Paul Luckenbach	26	16.37	27	6.30	27	14.22	27	15.20	American	Luckenbach Line	471.1	59.2	24.6	Boston	Seattle	General	6,300	9,027	6,539
Scicta[2]	19	17.35	27	6.25	27	17.50			American	U. S. Navy	155.0	30.0		Cristobal	Balboa				
A. L. Kent	26	23.06	27	7.25	27	17.15	27	18.35	American	Crowell & Thurlow	410.6	55.1	27.0	Baltimore	Everett	General	9,077	7,047	5,030
Grelbank	26	23.02	28	6.30	28	16.00	28	17.15	British	J. C. Goulf & Co.	399.0	52.0	20.0	Cardiff	Antofagasta	Ballast		5,730	3,986
Marie Maersk	27	21.54	28	7.37	28	17.35	28	18.54	Danish	A. P. Moller	362.2	51.4	16.5	Baltimore	Arica	Ballast		4,971	3,428
France Maru	28	0.20	28	11.37	28	19.24			Japanese	Kokusai Kisen Kaisha	385.0	51.0	24.6	Galveston	Yokohama	General	6,651	5,919	4,429
Manavi	18	15.08	28	12.00	28	19.26	29	1.45	British	Pacific Steam Navigation Co.	216.0	35.1	12.6	Cristobal	Guayaquil	General	240	1,357	884
Santa Clara	28	4.27	28	12.45	28	20.24	28	21.50	American	Atlantic & Pacific Steamship Co.	404.6	53.0	26.6	Philadelphia	Los Angeles	General	4,800	6,760	4,450
Ansgir	28	16.24	29	6.30	29	13.34	29	16.35	German	Roland Line	393.0	54.0	22.0	Hamburg	Corral	General	3,800	6,542	4,532
Cambrai[3]	28	21.11	29	7.35	29	14.33	30	7.21	American	U. S. Army	448.0	58.0	26.1	Brooklyn	Honolulu	Military supplies	1,227		
Nebraskan	29	1.32	29	8.10	29	15.35	29	16.18	American	American-Hawaiian Line	377.0	55.2	25.7	Philadelphia	Portland	(4)	5,337	5,707	3,643
Scottsburg	29	3.58	29	9.05	29	17.20	30	11.06	American	Barber Line (S. B.)	419.5	56.5	25.0	New York	Yokohama	General, pet.	6,441	8,696	6,316
Dillwyn	29	6.40	29	9.20	29	18.03	29	19.05	American	Walker & Daly (S. B.)	435.0	56.0	18.0	New Orleans	Los Angeles	Ballast		7,602	5,312
Bolton Castle	29	7.10	29	12.05	29	19.25	29	20.50	British	James Chambers & Co.	424.0	53.0	27.0	New York	Hongkong	General, case oil	7,600	6,489	4,869
William Rockefeller	29	16.00	30	6.40	30	14.49	30	15.45	American	Standard Oil Co.	554.9	75.3	25.0	New York	Los Angeles	Ballast		14,785	10,313
Orcus	29	8.10	30	7.20	30	15.55	30	17.10	American	Wessel, Duval & Co. (S. B.)	380.0	53.0	15.5	New York	Talcahuano	General	1,718	5,667	4,227
Robert E. Hopkins	29	22.25	30	8.04	30	17.30	30	18.50	American	Tidewater Oil Co.	424.4	58.2	21.6	New York	Los Angeles	Ballast		7,333	5,244
Frogner	30	2.12	30	9.05	30	18.20	30	23.04	Norwegian	Fearnley & Eger	407.0	53.8	18.6	Birkenhead	Mejillones	Ballast		7,019	5,310
Mexican	30	5.36	30	9.45	30	20.00	30	21.07	American	American-Hawaiian Line	472.3	57.2	23.0	Hamburg	Los Angeles	General	6,410	9,258	6,789
Isonomia	30	10.57	30	11.0	30	20.55	31	10.55	Panaman	California Steamship Co.	349.6	49.6	14.5	Baltimore	Eureka	Ballast		4,238	3,030
Malacca Maru	30	11.20	30	11.5	30	21.44	30	23.04	Japanese	Nippon Yusen Kaisha	400.0	54.0	20.11	New York	Kobe	General	8,750	5,819	4,110

[1] Motor schooner. [2] Tug. [3] Transport. [4] Steel products and general.

San Francisco..	23	13.20	24	7.02	24	14.40	24	14.40	British.....	Johnson Line.....	376.0	51.3	24.0	Portland.....	Havre.....	General.....	5,467	5,298	4,001
Amsterdam....	22	19.00	24	7.07	24	16.30	24	17.45	Dutch.....	Royal Netherlands W. I. Mail...	474.4	65.6	31.0	Valparaiso....	Hamburg.....	General.....	14,123	11,647	8,219
Craster Hall....	24	22.15	25	7.56	25	16.30	25	18.15	American...	Isthmian Steamship Line.....	380.0	50.0	23.6	Iquique.....	New York....	Nitrate.....	6,870	4,946	3,508
Ocean Prince...	25	3.00	25	8.18	25	17.10	25	18.15	British.....	Furness, Witty & Co.....	410.3	52.3	25.0	Vancouver....	Havre.....	General, grain...	7,100	5,926	4,252
Santa Teresa...	25	9.20	25	10.01	25	17.08	25	19.20	American...	Grace Line.....	360.2	51.6	22.8	Talcahuano...	New York....	General.....	4,008	5,726	4,086
Welsh City....	25	10.30	25	11.09	25	18.45	26	11.40	British.....	W. R. Smith & Sons.....	411.0	54.5	29.0	Vancouver....	Falmouth.....	Wheat.....	8,631	6,957	5,133
Toco.....	26	0.30	26	8.05	26	15.33	26	15.53	British.....	Chile Steamship Co.....	440.8	56.1	17.5	Antofagasta...	Tampico.....	Ballast.....	.....	7,693	4,885
Dochra.....	26	8.15	26	9.00	26	16.50	26	17.55	American...	Luckenbach Line.....	376.0	51.0	21.0	Seattle.....	New York....	General.....	3,970	5,158	3,813
Benarti.....	26	21.30	27	8.09	27	15.20	27	17.35	British.....	Wm. Thomson & Sons.....	382.5	46.1	23.0	Portland.....	Queenstown...	Wheat.....	5,172	4,142	3,008
Santa Teela....	27	4.10	27	8.23	27	15.35	27	20.20	American...	Grace Line.....	298.6	40.0	17.6	Salaverry.....	New York....	General.....	1,709	2,832	1,803
Minnesotan....	27	11.00	27	11.39	27	18.20	27	18.21	American...	United American Lines.....	429.0	53.7	27.6	Portland.....	New York....	General.....	8,500	7,150	4,913
Walter D. Munson.....	27	3.43	27	13.05	27	19.24	27	19.24	American...	Munson Line.....	368.2	48.3	23.4	Portland.....	New York....	Lumber.....	4,650	4,705	3,246
Tuscan Star....	27	3.30	27	13.51	27	21.37	27	21.27	British.....	Blue Star Line.....	420.0	54.0	22.6	Los Angeles...	Glasgow.....	Cold storage, gen	4,561	7,365	5,867
Anglo Mexican.	27	17.20	28	6.50	28	15.30	28	16.45	British.....	Nitrate Products Steamship Co.	393.6	52.4	26.0	Tocopilla.....	Plymouth[s]...	Nitrate.....	7,400	6,163	4,452
Willpolo.....	27	14.35	28	7.41	28	16.35	28	16.35	American...	Williams Steamship Co.....	383.8	52.2	27.4	Grays Harbor.	New York....	General, lumber.	5,697	7,680	4,112
Curaca.....	28	1.20	28	7.58	28	17.35	28	20.00	Panaman...	Grace Line.....	403.0	52.4	28.6	Bahia Blanca.	New York....	Nitrate, general.	8,695	6,804	4,897
F. H. Hillman..	28	5.30	28	8.46	28	17.57	28	17.57	American...	Standard Oil Co. of California...	500.0	68.2	28.10	San Francisco.	Port Arthur...	Oil.....	14,700	11,225	7,913
Long Beach....	28	6.00	28	9.53	28	18.25	28	18.35	American...	Long Beach Steamship Co.....	318.1	41.3	20.0	Seattle.....	New York....	Lumber.....	2,400	3,195	2,085
Urubamba.....	27	22.55	28	12.36	28	21.20	.....	.....	Peruvian...	Peruvian Line.....	381.2	41.1	17.6	Callao.....	Cristobal.....	General.....	1,486	4,803	2,951
Mayebashi Maru.....	28	7.30	28	10.38	28	19.27	28	19.27	Jaganese....	Nippon Yusen Kaisha.....	445.0	58.0	22.6	Osaka.....	New York....	General.....	9,874	8,012	5,749
Santa Barbara.	29	6.45	29	7.30	29	15.15	29	19.30	American...	Grace Line.....	404.6	53.9	28.2	Caleta Colosa.	New Orleans..	Nitrate.....	8,700	6,789	4,746
Julia Luckenbach.....	29	12.15	29	12.49	29	19.35	29	19.35	American...	Luckenbach Line.....	437.0	57.0	31.7	Portland.....	Boston.....	General.....	8,050	8,543	6,402
Bethore.....	28	21.21	29	11.15	30	13.05	30	14.45	American...	Ore Steamship Corp.....	550.3	72.0	32.10	Cruz Grande..	New York....	Iron ore.....	19,450	15,476	11,102
Eurypylus.....	29	20.55	30	6.48	30	15.05	30	16.45	British.....	Alfred Holt & Co.....	430.0	54.0	26.0	Astoria.....	United King..	Wheat.....	7,220	6,887	4,612
Montauk.....	29	21.55	30	7.53	30	15.30	30	15.30	American...	Luckenbach Line.....	419.5	56.5	25.6	San Francisco.	New York....	General.....	6,330	8,696	6,316
Gudrun Maersk	29	23.45	30	8.32	30	17.15	30	21.07	Danish.....	A. P. Moller.....	361.7	51.4	24.8	Caleta Junin..	.....	Nitrate.....	6,948	4,961	3,477
Howick Hall...	30	7.00	30	9.58	30	17.52	30	19.45	American...	U. S. Steel Products Co.....	400.8	51.5	23.7	Vancouver....	Manchester...	General.....	.....	6,095	4,381
Ribera.....	30	13.00	30	13.08	30	22.00	30	23.55	British.....	Bolton Steamship Co.....	389.0	51.0	24.6	Caleta Colosa.	Pensacola.....	Nitrate.....	6,450	5,469	4,042
Jacob Luckenbach.....	30	6.30	30	14.48	30	22.37	30	22.37	American...	Luckenbach Line.....	414.5	53.7	26.6	Seattle.....	Mobile.....	General.....	6,000	7,314	5,270

[s] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Dec. 24.....	Atenas.....	United Fruit Co.....	New Orleans via Habana.
Dec. 24.....	Gen. W. C. Gorgas...	Panama Railroad Steamship Line..	New York via Haiti.
Dec. 26.....	Ulua.....	United Fruit Co.....	New York via Habana.
Dec. 26.....	Heredia.....	United Fruit Co.....	New Orleans via Habana.
Dec. 26.....	Venezuela.....	Royal Netherlands W. I. Mail.....	Amsterdam via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Dec. 26....	Atenas.....	United Fruit Co.....	New Orleans via Bocas del Toro.
Dec. 27....	Venezuela.....	Royal Netherlands W. I. Mail.....	Port Limon.
Dec. 27....	Ulua.....	United Fruit Co.....	New York via wayports.
Dec. 28....	Carrillo.....	United Fruit Co.....	Colombian ports.

(Continued on page 272, column 2.)

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 271.

PORT OF CRISTOBAL.—Continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
Dec. 27	Carrillo	United Fruit Co.	New York via Kingston.
Dec. 27	O-14[6]	U. S. Navy	High seas.
Dec. 28	Sisaola	United Fruit Co.	Colombian ports.
Dec. 30	St. Mihiel	U. S. Army	New York via San Juan.
Dec. 30	San Benito	United Fruit Co.	Boston via Habana and Port Limon.
Dec. 30	Venezuela	Royal Netherlands W. I. Mail	Port Limon.
Dec. 30	Antiochia	Hamburg-American Line	Hamburg via wayports.
Dec. 30	Panama	Panama Railroad Steamship Line	New York via Haiti.

[6] Submarine. [7] Motor schooner.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
Dec. 24	Akera	Anglo-Saxon Steamship Co.	San Pedro.
Dec. 25	Ginyo Maru	Toyo Kisen Kaisha	Valparaiso.
Dec. 28	Depere	General Steamship Corp.	Valparaiso.

*DEPARTURES.

Date.	Vessel.	Line.	For—
Dec. 28	Sisaola	United Fruit Co.	New York via Kingston.
Dec. 28	Arabia[7]	Panama Plantation Syndicate	Colon.
Dec. 23	Herelia	United Fruit Co.	New Orleans and wayports.
Dec. 30	San Benito	United Fruit Co.	Boston.
Dec. 24	Regulus	R. S. Silva & Co.	Tacoma.
Dec. 24	Anyo Maru	Toyo Kisen Kaisha	Valparaiso.
Dec. 26	Akera	Anglo-Saxon Steamship Co.	San Francisco.
Dec. 23	Ginyo Maru	Toyo Kisen Kaisha	Hongkong.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., January 10, 1923. No. 22.

Large Cargoes Through Canal During December.

Reference was made in THE PANAMA CANAL RECORD of November 1, 1922, to the increasing number of vessels transiting the Canal with large cargoes, and a list was given of 15 vessels each carrying 10,000 tons of cargo or more which had transited the Canal during October.

During the month ending December 31, 21 vessels each carrying 10,000 tons of cargo or more, made the transit. All but one were bound from Pacific to Atlantic ports. These vessels are grouped by nature of cargo in the following tabulation, which shows the names of vessels, date of transit, character of cargo, and ports of origin and destination:

Name of vessel.	Date of transit.	Tons of cargo.	Character of cargo.	Bound from—	Bound to—
Samuel Q. Brown	December 3	10,000	Crude petroleum	Los Angeles	New York.
Standard	December 6	17,200	Crude petroleum	Los Angeles	New York.
Delaware Sun	December 6	13,620	Crude petroleum	Los Angeles	Philadelphia.
Robert E. Hopkins	December 12	10,295	Crude petroleum	Los Angeles	New York.
William Rockefeller	December 12	20,643	Crude petroleum	Los Angeles	New York.
John D. Archbold	December 15	20,024	Crude petroleum	Los Angeles	New York.
H. M. Storey	December 19	15,000	Crude petroleum	Los Angeles	New York.
Agwilake	December 23	12,481	Crude petroleum	Los Angeles	Philadelphia.
John Worthington	December 20	10,483	Naphtha	Talara	New York.
F. H. Hillman	December 28	14,700	Distillate	San Francisco	Port Arthur.
Victorious	December 1	10,756	General merchandise	Saigon	New York.
Astronomer	December 9	10,500	General merchandise	Vancouver	London.
Virginian	December 18	10,500	General merchandise	Seattle	Hamburg.
Ethan Allen	December 19	10,953	General merchandise	Saigon	New York.
Monticello	December 27	10,000	General merchandise	Baltimore	Los Angeles.
Amsterdam	December 23	14,149	Nitrate, merchandise	Valparaiso	Hamburg.
G. Harrison Smith	December 14	20,500	Iron ore	Cruz Grande	New York.
Marore	December 15	20,000	Iron ore	Cruz Grande	Baltimore.
Bethore	December 29	19,450	Iron ore	Cruz Grande	New York.
Andrea F. Luckenbach	December 9	12,200	General and lumber	Los Angeles	Philadelphia.
Lewis Luckenbach	December 19	10,386	General and lumber	San Francisco	Boston.

The total cargo carried by the 21 vessels listed above was 293,741 long tons. This was an average of 13,988 tons per vessel. The combined Panama Canal net tonnage of the above 21 vessels was 160,159 tons, Panama Canal net measurement, giving a ratio of cargo tonnage to net tonnage of 1.83. Tolls on the above vessels totaled $165,342.80, making the average cost of tolls a little over 56 cents per ton of cargo.

In December of 1921, five vessels transited the Canal carrying cargoes of 10,000 tons or greater. All five were engaged in the transportation of mineral oils.

Free Medical Advice by Radio to Ships at Sea.

An article under this heading was published in THE PANAMA CANAL RECORD of December 20, 1922. To the list of United States Public Health Stations and United Fruit Company hospitals offering such service, listed in the article, has been added: U. S. Marine Hospital No. 14, at New Orleans, La.; calls upon the hospital may be sent to the Naval Radio Station at Algiers, La., from ships in the Gulf of Mexico region. The call letters of the Algiers station are "NAT."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 6, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Anniston City	30	11.50	31	6.40	31	14.28	31	15.35	American	U. S. Steel Products Co	424.2	56.2	26.10	Baltimore	San Francisco	Steel, general	8,496	7,611	5,450
Trecarrell	30	18.30	31	7.40	31	15.35	31	17.15	British	Hain Steamship Co	400.1	52.3	22.4	New York	Adelaide	General	4,704	5,790	4,067
Cristobal [1]	31	0.20	31	8.03	31	16.17	(1)	(1)	American	Panama Railroad Steamship Line	489.5	60.0	23.6	Norfolk	Balboa	Coal	4,975	10,697	8,063
Port Curtis	30	18.52	31	8.50	31	17.53	31	18.56	British	Commonwealth & Dom. Line	450.0	58.0	25.6	New York	Brisbane	General	3,820	8,500	6,140
Benjamin Brewster	31	0.28	31	9.20	31	18.39	31	19.56	American	Standard Oil Co	411.6	53.2	19.0	New York	Talara	Ballast	.....	6,177	4,244
Artigas	30	21.00	31	10.30	31	19.27	31	20.53	American	No. Atl. & West. S. S. Co. (S. B.)	390.0	54.2	18.1	Philadelphia	Los Angeles	General	2,206	6,204	4,314
City of Evansville	30	10.10	31	11.15	31	20.25	31	21.24	British	Ellerman Lines, Ltd	435.2	57.3	25.0	Newport News	Auckland	(4)	7,100	8,627	6,644
Astyanax	31	16.54	1	6.30	1	13.34	1	14.42	British	Alfred Holt & Co	390.0	49.2	23.8	Swansea	San Francisco	General	5,655	5,165	3,211
Katrina Luckenbach	31	19.37	1	7.13	1	15.05	1	16.05	American	Luckenbach Line	468.3	55.11	25.0	New York	Los Angeles	General	5,743	8,508	6,179
Myriam	31	20.00	1	8.18	1	16.06	1	22.05	French	Compagnie Auxiliarie de Nav	425.0	57.0	20.0	Cherbourg	San Francisco	Ballast	.....	7,178	5,072
Arawa	31	19.45	1	8.55	1	17.18	2	13.44	British	Shaw, Savill & Albion Co	459.5	60.5	27.2	London	Wellington	General	5,005	10,035	7,504
Balboa	31	5.14	1	9.15	1	17.54	1	19.15	Colombian	Coy. Costancia Colombiana	190.0	29.1	14.9	Pto. Colombia	Tumaco	Salt and general	470	737	335
Chuky	1-1	1.12	1	10.37	1	19.12	1	20.30	British	Sheridan Steamship Co	440.8	56.1	26.6	Tampico	Tocopilla	Fuel oil	9,536	7,636	4,942
Ceres	1	18.55	2	6.30	2	14.20	3	0.05	Dutch	Royal Netherlands W. I. Mail	348.0	48.2	19.0	Amsterdam	San Antonio	Coke	3,611	4,243	3,123
Patuxent [2]	12-8	.....	2	6.50	2	15.05	.....	.....	American	U. S. Navy	156.6	24.0	.....	Cristobal	Balboa	.....	.....	.....	.....
Herman Frasch	1-2	9.56	2	10.30	2	17.47	2	21.40	American	Union Sulphur Co	356.0	51.6	25.4	Sabine	Los Angeles	Sulphur	6,500	5,349	2,950
Alaska	1	22.00	3	6.18	3	15.34	3	16.59	French	French Line	425.0	55.0	19.11	Bordeaux	San Francisco	General	5,376	6,990	4,854
Norlina	3	6.59	3	7.40	3	16.22	3	17.30	American	Garland Steamship Co	385.0	51.1	25.0	Mobile	Seattle	General	6,400	5,466	4,181
Santa Isabel	3	6.51	3	10.35	3	11.31	3	18.45	American	American & Cuban S. S. Line	251.0	43.6	25.6	Baltimore	San Francisco	Steel products	3,409	2,823	1,740
Havana Maru	3	10.20	3	11.12	3	18.23	3	20.28	Japanese	Osaka Shosen Kaisha	407.0	59.8	22.0	New York	Singapore	Iron, rosin	4,092	6,234	4,500
Greenwich	3	2.18	3	12.15	3	19.51	3	21.19	British	Britain Steamship Co	341.1	46.6	22.0	Newport	Iquique	Coal, coke, iron	4,221	3,974	2,929
Memphis City	3	12.40	3	12.40	3	20.47	3	22.00	American	U. S. Steel Products Co	425.0	56.0	26.6	New Orleans	Yokohama	Steel, general	7,675	7,539	5,418
Santa Luisa	3	11.50	4	6.27	4	13.37	4	14.48	American	Grace Line	360.2	51.6	21.0	New York	Talcahuano	General	1,534	5,694	3,975
Iolcos	3	23.37	4	7.25	4	15.03	4	16.25	Greek	Helenic Transport S. S. Co	400.0	52.2	16.6	New Orleans	Caleta Colosa	Ballast	.....	5,771	4,047
Gen. G. W. Getty	.....	.....	4	7.55	4	14.40	.....	.....	American	U. S. Army	.....	.....	.....	Cristobal	Balboa	.....	.....	.....	.....
Ansaldo San Giorgio II	4	6.58	4	8.10	4	15.35	5	22.49	Italian	Italian Line	391.7	52.0	19.6	Genoa	Valparaiso	General	1,694	5,902	4,287
Huasco	12-31	14.56	4	10.15	4	17.15	4	18.20	Chilean	Chilean Steamship Line	379.0	44.0	20.10	Cristobal	Valparaiso	General	870	4,552	3,182
H. M. Storey	1-4	12.26	4	12.35	4	18.55	4	20.11	American	Standard Oil Co	500.0	68.2	22.0	New York	Los Angeles	Ballast	.....	11,224	7,849
Remuera	4	19.45	5	6.20	5	13.59	6	20.21	British	New Zealand Shipping Co	485.0	62.0	25.0	London	Auckland	General	4,569	11,717	8,771
Balboa [3]	4	14.20	5	7.31	5	14.50	5	21.45	Swedish	Johnson Line	440.0	56.0	25.6	Gothenburg	San Francisco	General	7,966	7,480	5,533
Celtic Prince	4	23.45	5	7.45	5	15.54	5	17.07	British	Prince Line, Ltd	449.0	57.3	25.6	New York	Yokohama	(5)	6,233	8,699	6,208
Corinto	2	15.35	5	9.37	5	16.40	5	21.08	American	Pacific Mail Steamship Co	261.1	40.0	14.9	Cristobal	San Francisco	General	830	2,403	1,560
Acajutla	12-31	16.42	5	12.03	5	18.15	5	22.33	British	Pacific Steam Navigation Co	215.7	33.5	17.0	Cristobal	Champerico	General	1,149	1,273	706

[1] Returned to Cristobal. [2] Tug. [3] Motor ship. [4] General, case oil, gasoline, and benzine. [5] General, naphtha, and gasoline.

Candidate	1–3	20.13	6	6.20	6	13.45	6	14.55	British	Harrison Line	400.0	52.0	14.5	Liverpool	San Francisco	Ballast		5,677	4,126
Utacarbon	5	18.10	6	7.25	6	14.45	6	16.00	American	Union Oil Co	435.0	56.0	20.0	Mobile	Los Angeles	Ballast		7,642	5,355
Ohio[6]	4	14.50	6	8.23	6	14.41	6	15.10	American	E. W. Scripps	160.5	26.0	11.3	New York	San Diego	Ballast		530	240
Cathwood	5	23.56	6	9.12	6	17.12	6	18.15	American	Union Oil Co	435.0	56.0	19.8	Mobile	Los Angeles	Ballast		7,642	5,327
Electrician	6	1.56	6	9.25	6	18.00	6	19.07	British	Harrison Line	385.0	52.0	17.0	Liverpool	Victoria	General	3,108		
Panaman	6	9.50	6	10.26	6	18.44	6	19.35	American	American-Hawaiian Line	407.7	53.7	23.3	Boston	Portland	General	5,336	7,098	5,029
Urubamba	1	2–28	21.20	6	10.55	6	19.45	6	20.50	Peruvian	Peruvian Line	381.2	46.1	17.3	Cristobal	Callao	General	740	4,803	2,951
Bernice G[7]	1	2–15		6		6	10.09			American	O. E. McCoin	20.4	7.0		Cristobal	Gatun	Ballast		2	2
West Jappa	1	6–6	11.15	6	11.40	6	20.45	7	13.45	American	Swayne & Hoyt (S. B.)	410.5	54.2	21.6	Buenos Aires	San Francisco	([8])	4,466	6,755	4,873
G. Harrison Smith	6	13.13	6	13.25	7	6.45	7	20.13	British	International Petroleum Co	550.6	72.0	24.0	New York	Cruz Grande	Ballast		15,476	11,102

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Munrio	30	16.00	31	6.55	31	14.45	31	14.45	American	Munson Line	333.6	48.2	23.6	Gray's Harbor	New York	Lumber	4,700	4,165	3,066
Huasco	30	0.05	31	7.17	31	14.56	4	10.15	Chilean	Chilean Line	379.7	44.3	23.0	Talcahuano	Cristobal	General	61	7,047	4,998
Thomas P. Beal	30	22.00	31	8.00	31	15.58	31	15.58	American	Crowell & Thurlow	394.1	55.1	27.6	San Francisco	Boston	General, lumber	8,658	4,552	3,182
Epsom	30	21.40	31	9.20	31	18.03	31	23.06	British	Watts, Watts & Co	370.0	50.6	22.10	Ocean Island	Norfolk	Phosphates	5,800	4,944	3,468
Acajutla	31	0.45	31	9.59	31	16.42	5	12.00	British	Pacific Steam Navigation Co	215.7	33.5	15.4	Champerico	Cristobal	General	765	1,273	706
Ansaldo San Giorgio I	30	20.40	31	11.58	31	21.55	1	0.17	Italian	Eauturno Otello	385.7	49.0	27.5	Valparaiso	Genoa	General	6,517	5,657	3,974
Aconcagua	1	4.30	1	7.51	1	15.24	2	0.12	Chilean	Chilean Line	422.8	56.2	27.8	Valparaiso	New York	General	5,100	7,758	4,705
Logan	1	8.30	1	9.03	1	16.45	2	18.15	American	Pacific Mail Steamship Co	445.5	49.2	26.0	San Francisco	Baltimore	General	3,800	7,650	5,682
Nordlys	1	12.15	1	14.42	1	21.55	1	22.55	Danish	P. Brown & Co	362.0	51.3	23.6	Tocopilla		Nitrate	6,360	4,932	3,468
Venezuela	1	6.16	2	7.08	2	14.20	3	12.18	American	Pacific Mail Steamship Co	380.0	48.7	22.6	San Francisco	New York	General	2,000	6,033	4,353
Sciota			2	7.20	2	14.05			American	U. S. Navy	155.0	30.0		Balboa	Cristobal				
General G. W. Goethals	1	5.30	2	7.54	2	14.48	3	18.00	American	Panama Railroad Steamship Line	353.0	48.7	20.0	Guayaquil	New York	General	1,733	5,125	3,564
Sabine Sun	2	8.00	2	13.04	2	21.12	2	21.12	American	Sun Co	429.0	59.2	28.2	San Pedro	Chester	Oil	10,300	7,898	5,459
Haarlem	2	6.00	2	8.39	2	17.20	3	11.08	Dutch	Dutch West India Mail	374.0	50.0	22.6	Chile	Hamburg	General, nitrate	5,155	4,759	3,660
Helder	2	0.30	2	11.52	2	20.00	2	21.30	Dutch	Royal Netherlands W. I. Mail	372.0	50.0	21.0	Valparaiso	Liverpool	General	5,473	5,117	3,507
Corinto	2	1.00	2	7.59	2	15.35	5	9.30	American	Pacific Mail Steamship Co	261.1	40.8	14.0	San Francisco	Cristobal	General	493	2,403	1,560
Eldorado	2	10.45	2	14.32	2	22.14	2	22.14	American	Western Transport Co	245.6	42.0	16.8	Seattle	New Orleans	General	2,300	2,439	1,662
Cristobal			3	7.19	3	14.20	4	15.07	American	Panama Railroad Steamship Line	489.5	58.0	20.1	Balboa	Cristobal	Ballast		10,697	8,063
Santa Olivia	2	20.00	3	7.56	3	16.11	3	16.11	American	Pacific Mail Steamship Co	404.6	53.0	29.0	Seattle	Baltimore	Canned goods	7,400	6,779	4,921
Gen. W. M. Graham			3	8.13	3	16.13			American	U. S. Army	156.0	32.0	13.0	Balboa	Cristobal				
Moerdijk	2	22.00	3	8.49	3	16.55	3	23.05	Dutch	Holland-American Line	473.0	61.0	24.0	Vancouver	London	General	9,422	9,165	7,056
Kenuta	3	4.00	3	9.15	3	18.00	3	19.45	British	Pacific Steam Navigation Co	400.0	52.0	24.6	Talcahuano	Liverpool	General	6,278	6,420	4,704
Cold Harbor	3	8.00	3	10.05	3	18.57	3	18.57	American	Nawseo Line	392.0	54.2	24.0	San Francisco	Philadelphia	General	6,107	6,167	4,290
Kenmare	3	17.30	4	6.57	4	16.15	4	17.35	British	Merlin Shipping Co	325.0	47.0	20.6	Iquique	St. Thomas[9]	Nitrate	5,085	3,717	2,755
Steel Ranger	4	14.20	4	10.46	4	21.20	4	21.20	American	Isthmian Steamship Line	424.2	56.2	25.0	Seattle	Philadelphia	General, lumber	7,200	7,611	5,450
Isis	4	16.00	5	8.14	5	15.05	5	16.18	German	Kosmos Line	376.11	52.0	24.4	Corral	Hamburg	General	6,270	5,788	4,027
Atlanta City	4	23.00	5	8.10	5	16.11	5	16.11	American	Isthmian Steamship Line	424.2	56.2	26.0	Everett	Boston	General	7,467	7,611	5,450
Theodore Roosevelt	5	12.15	6	7.02	6	15.15	6	15.15	Norwegian	Norway-Pacific Line	425.5	55.2	28.6	Portland	Christiania	General	9,300	7,593	5,637
Orcoma	6	3.00	6	8.09	6	17.08	7	12.50	British	Pacific Steam Navigation Co	528.0	62.0	28.0	Coronel	Liverpool	General	6,782	12,267	7,942
Laura C. Hall	5	14.00	6	9.25	6	17.07	8	7.28	British	Pacific Metals Corporation	81.0	25.6	9.0	Buenaventura	Cristobal	Coffee, gold	36	132	72

[6] Yacht. [7] Launch. [8] Coffee, hides, fertilizer and bones. [9] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Darien	5	24.00	6	9.29	6	16.55	7	10.40	Panaman	H. Obarrio & Co.	98.0	26.9	7.5	Buenaventura.	Cristobal	Hides, coffee	.....	169	50
Hawaiian	5	11.15	6	11.50	6	19.13	6	19.13	American	United American Lines	406.8	51.1	26.0	Seattle	New York	Canned goods	7,300	6,039	4,180
W. S. Rheem	6	14.00	6	14.40	6	23.05	6	23.05	American	Standard Oil Co.	500.0	68.2	29.0	San Francisco.	New York	Oil	([10])	11,224	7,860

[10] 138,841 barrels.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
December 31.	Santa Marta	United Fruit Co.	New Orleans via Habana.
January 1	Solana	Pacific Mail Steamship Co.	Tampico.
January 2	San Bruno	United Fruit Co.	Boston via Habana.
January 2	Parismina	United Fruit Co.	New Orleans via Habana.
January 2	Toloa	United Fruit Co.	New York via Habana.
January 3	Camden	United Fruit Co.	Tampico.
January 3	Tivives	United Fruit Co.	New York via Kingston.
January 4	Carrillo	United Fruit Co.	Colombian ports.
January 4	Santa Marta	United Fruit Co.	Bocas del Toro.
January 5	Macoris	French Line	Havre and wayports.
January 6	Coronado	Elder & Fyffes, Ltd.	Port Limon.
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

*DEPARTUCES.

Date.	Vessel.	Line.	For—
December 31	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
December 31	Venezuela	Royal Netherlands W. I. Mail	Amsterdam via wayports.
December 31	Antiochia	Hamburg-American Line	Cartagena.
December 31	W. L. Connelly	Sinclair Navigation Co.	Tampico.
January 1	Santa Marta	United Fruit Co.	Bocas del Toro.
January 2	St. Mihiel[11]	U. S. Army	New York.
January 3	Solana	Pacific Mail Steamship Co.	Tampico.
January 3	San Bruno	United Fruit Co.	Boston via Port Limon.
January 3	Toloa	United Fruit Co.	New York via wayports.
January 4	Parismina	United Fruit Co.	New Orleans via wayports.
January 4	Tivives	United Fruit Co.	Colombian ports.
January 4	Carrillo	United Fruit Co.	New York via Kingston.
January 4	Santa Marta	United Fruit Co.	New Orleans.
January 5	Camden	United Fruit Co.	Tampico.
January 6	Coronado	Elder & Fyffes, Ltd.	Kingston.

[11] Transport.

PORT OF BALBOA.

January 3	Remus	Latin-American Line	Vancouver.	January 3	Remus	Latin-American Line	Talara.
January 5	Guardian	All America Cables Co.	High seas.	.....	.....	.....	.....

* Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in December, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels	Tonnage. United States equivalent.	Tonnage. Panama Canal net.	Tonnage. Registered gross.	Tonnage. Registered net.	Tolls.	Cargo.
United States coastwise:							
United States	55	212,067	262,177	328,049	204,427	$245,140.65	256,569
From east coast of United States to west coast of South America:							
United States	12	42,780	51,962	70,002	42,307	44,628.41	15,217
British	5	12,675	16,315	21,434	13,252	14,840.84	3,757
Danish	4	10,664	12,714	16,083	9,953	10,165.87	2,161
Norwegian	2	5,935	8,381	9,462	5,888	6,383.42	400
Chilean	1	3,095	4,705	7,310	3,976	3,868.75	2,952
Dutch	1	1,867	1,867	2,007	1,142	2,333.75	1,570
Totals	25	77,925	95,944	126,298	76,518	82,221.04	26,057
From Europe to west coast of South America:							
British	6	22,040	28,509	35,920	22,125	25,087.01	14,488
German	3	10,551	14,436	15,941	9,539	13,188.75	9,248
Dutch	3	8,907	11,053	14,225	8,878	11,133.75	10,453
Norwegian	2	3,573	5,617	5,672	3,611	4,181.95	418
Italian	1	4,030	5,011	7,028	4,175	5,037.50	1,016
French	1	3,600	4,146	5,765	3,681	4,590.00	1,069
Peruvian	1	3,510	3,544	4,763	3,089	4,252.80	4,819
Totals	17	56,211	72,316	89,214	55,098	67,381.76	41,511
From east coast of United States to Far East:							
British	6	28,204	36,504	44,900	28,293	35,255.00	38,334
United States	4	15,800	22,904	25,463	15,668	19,761.25	28,987
Japanese	3	11.121	12,888	16,700	10,879	13,721.05	18,471
Norwegian	1	3,416	3,937	5,489	3,435	4,270.00	6,320
Totals	14	58,550	76,233	92,552	58,275	73,007.30	92,112
From east coast of United States to Australasia:							
British	6	25,155	33,149	40,049	25,249	31,443.75	35,328
United States	1	4,309	4,944	6,848	4,280	5,386.25	5,500
Totals	7	29,464	38,093	46,897	29,529	36,830.00	40,828
From Europe to west coast of United States:							
British	7	26,816	31,540	42,571	26,264	22,708.80	.....
From Europe to Australasia:							
British	6	26,099	32,368	41,458	26,386	32,623.75	24,527
From Europe to west coast of Canada:							
British	5	21,170	27,228	33,649	21,306	26,462.50	23,213
From Cristobal, C.Z., to west coast of South America:							
British	3	675	1,028	1,263	815	843.75	260
Peruvian	2	2,504	5,364	7,922	3,941	3,130.00	1,816
Totals	5	3,179	6,392	9,185	4,756	3,973.75	2,076
Foreign vessels in ballast between United States coastwise ports:							
British	2	10,819	11,753	15,161	10,333	8,630.31	.....
Panaman	2	6,320	6,893	8,374	5,312	5,004.36	.....
Totals	4	17,139	18,646	23,535	15,645	13,634.67	.....
From east coast of United States to west coast of Canada:							
United States	3	6,673	9,340	11,075	6,648	8,341.25	10,938
British	2	8,604	10,959	13.834	8,702	10,755.00	14,220
Totals	5	15,277	20,299	24,909	15,350	19,096.25	25,158
From Cristobal, C.Z., to west coast of Central America:							
British	2	1,286	1,441	2,298	1,304	1,607.50	1,960
From east coast of United States to Balboa, C.Z:							
United States	1	7,216	8,063	9,604	7,027	9,020.00	4,975
From east coast of Canada to west coast of South America:							
British	1	5,166	6,096	8,764	5,511	4,389.12	.....
From east coast of Mexico to west coast of South America:							
British	1	4,366	4,885	7,337	4,286	5,457.50	9,443

ATLANTIC TO PACIFIC—Continued.

Route and registry.	No of vessels	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Cargo.
From east coast of South America to Far East:							
Japanese	1	3,666	4,282	5,848	3,633	$4,582.50	3,617
From east coast of South America to west coast of United States:							
United States	1	3,635	4,874	5,868	3,635	4,543.75	5,365
From West Indies to west coast of South America:							
Danish	1	1,788	1,795	2,028	1,188	1,341.00	.....
From West Indies to west coast of Mexico:							
Mexican	1	1,675	2,292	2,876	1,892	2,093.75	.....
From Cristobal, C. Z., to west coast of United States:							
United States	1	1,332	1,593	2,153	1,309	1,665.00	1,373
From Europe to west coast of Central America:							
German	1	1,124	1,320	1,928	1,136	1,405.00	1,634
Totals, December, 1922	161	574,251	717,877	907,121	564,475	659,185.59	560,418
Totals, November, 1922	148	552,805	694,963	863,193	539,277	636,330.48	501,378
Totals, December, 1921	135	468,028	575,669	720,502	459,490	571,743.49	517,110

PACIFIC TO ATLANTIC.

United States coastwise:							
United States	44	194,165	237,182	295,807	191,042	$242,379.90	369,653
From west coast of South America to east coast of United States:							
United States	14	50,752	60,978	82,122	51,234	63,101.40	111,514
British	7	25,593	32,890	42,354	25,765	31,991.25	51,330
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,695
Norwegian	1	2,110	2,565	3,494	2,158	2,637.50	4,650
Totals	23	82,469	101,330	134,356	83,224	102,747.65	176,189
From west coast of South America to Europe:							
British	10	32,766	42,117	52,943	32,768	40,957.50	65,675
Dutch	2	8,745	11,337	14,082	8,624	10,931.25	18,790
Japanese	1	4,349	4,700	5,873	4,254	5,436.25	7,800
Belgian	1	3,211	3,988	5,137	3,165	4,013.75	7,500
Danish	1	3,005	3,515	4,465	2,853	3,756.25	6,100
French	1	3,566	4,081	5,681	3,600	4,457.50	6,670
Italian	1	3,306	3,974	5,488	3,276	4,132.50	6,517
German	1	2,550	3,392	4,177	2,588	3,187.50	5,750
Totals	18	61,498	77,104	97,846	61,128	76,872.50	124,802
From west coast of Canada to Europe:							
British	7	31,365	40,441	49,858	31,442	39,206.25	57,102
United States	4	15,623	22,293	25,196	15,691	19,528.75	33,289
Japanese	3	13,062	13,500	17,594	12,772	15,995.00	21,939
Totals	14	60,050	76,234	92,648	59,905	74,730.00	112,330
From west coast of United States to Europe:							
British	9	30,168	37,671	44,708	28,707	37,710.00	52,082
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,500
Totals	10	32,421	41,690	48,453	31,565	40,526.25	57,582
From west coast of South America to Cristobal, C. Z.:							
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	5,968
British	3	675	1,028	1,263	815	843.75	952
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	88
United States	1	334	335	615	373	408.00	426
Totals	8	6,830	12,860	18,342	10,074	8,528.00	7,434
From Far East to east coast of United States:							
United States	3	14,376	17,757	21,660	14,404	17,970.00	27,566
Japanese	2	8,042	10,245	12,826	7,909	10,052.50	17,224
Norwegian	1	4,108	5,131	6,552	4,122	5,135.00	4,750
Totals	6	26,526	33,133	41,038	26,435	33,157.50	49,540
From Australasia to Europe:							
British	4	17,175	19,787	24,164	15,299	21,260.05	18,858
French	1	2,309	3,046	3,647	2,356	2,886.25	4,700
Totals	5	19,484	22,833	27,811	17,655	24,146.30	23,558

PACIFIC TO ATLANTIC.—Continued.

Route and registry.	No. of vessels	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Cargo.
From west coast of South America to east coast of Mexico:							
British	3	12,638	14,209	17,897	12,504	$10,230.48	.....
Norwegian	1	3,324	3,711	4,279	2,652	2,671.92	.....
Totals	4	15,962	17,920	22,176	15,156	12,902.40	.....
From west coast of Canada to east coast of United States:							
British	2	7,945	9,861	12,723	7,933	9,931.25	16,505
United States	1	3,688	4,709	6,034	4,381	4,610.00	9,067
Norwegian	1	3,530	4,513	5,659	3,533	4,412.50	5,246
Totals	4	15,163	19,083	24,416	15,847	18,953.75	30,818
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,286	1,441	2,297	1,303	1,607.50	1,447
From west coast of South America to West Indies:							
British	1	4,402	5,114	7,116	3,997	5,502.50	8,190
From west coast of South America to Azore Islands:[1]							
Danish	1	3,027	3,477	4,936	3,015	3,783.75	6,949
From Australasia to east coast of United States:							
British	1	3,021	3,468	4,576	2,957	3,776.25	5,800
From Balboa, C. Z., to east coast of United States:							
Norwegian	1	2,338	2,924	3,586	2,345	2,105.28	.....
From west coast of United States to Cristobal, C. Z.:							
United States	1	1,332	1,593	2,153	1,309	1,665.00	392
Totals, December, 1922	143	529,974	657,386	827,557	526,957	653,384.53	974,684
Totals, November, 1922	146	509,920	642,317	806,293	505,556	628,106.06	925,482
Totals, December, 1921	104	359,312	441,575	563,997	360,941	431,854.78	435,943

[1] For orders.

Commercial Traffic for First Six Months of Fiscal Year 1923.

The following table presents a comparison of the number of commercial vessels transiting the Canal during the first 6 months of the fiscal years 1922 and 1923, their net tonnage as determined by the Panama Canal rules of measurement, the total cargo they carried, and the tolls paid on them:

Month.	Number of ships.		Panama Canal net tonnage.		Tons of cargo.		Tolls.	
	1921.	1922.	1921.	1922.	1921.	1922.	1921.	1922.
July	206	251	810,613	1,127,871	708,982	1,211,100	$804,503.11	$1,094,127.42
August	236	257	965,276	1,084,133	839,273	1,165,959	955,380.78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,138,188	892,001.54	1,020,064.55
October	255	294	1,069,554	1,310,392	985,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,280	855,449	1,426,860	923,048.70	1,264,436.54
December	239	304	1,017,244	1,375,263	953,053	1,535,102	1,003,598.27	1,312,570.12
Six months	1,379	1,640	5,730,235	7,305,349	5,097,417	7,923,063	5,626,468.02	7,002,043.38

From the above it will be seen that for the first 6 months of the current fiscal year there has been an increase in traffic over the corresponding months of preceding fiscal year of approximately 19 per cent in the number of vessels, 27 per cent in the net tonnage, 55 per cent in cargo, and 24 per cent in tolls.

Supplement No. 7 to Tariff No. 6.—Ice.—Measurement of Vessels.

THE PANAMA CANAL, PANAMA RAILROAD CO.,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., January 4, 1923.

Item 25—ICE.

1. Price at both terminals alongside ship.....per ton.. $13.00

Item 42—MEASUREMENT OF VESSELS.
(Effective January 1, 1923.)

1. For making an original measurement to determine its Panama Canal tonnage and issuing certificate thereof:
   - Launches and other craft up to 5 tons..... No charge
   - Over 5 tons gross to 20 tons gross, Panama Canal measurement $5.00
   - Over 20 tons gross to 100 tons gross, Panama Canal measurement..... 10.00
   - Over 100 tons gross to 300 tons gross, Panama Canal measurement..... 25.00
   - Over 300 tons gross, Panama Canal measurement..... 50.00

M. L. WALKER,
Acting Governor, The Panama Canal.
Second Vice President, Panama Railroad Company.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 4, 1923.

On December 7, 1922, the following buoys were placed in Limon Bay, Cristobal harbor:

Coco Solo basin entrance buoy—A second-class red spar buoy set in 29 feet of water to mark outer edge of 24-foot spot. This buoy is set in the following position: Right tangent, East breakwater light tower to Toro Point light tower, 34° 25′. Left tangent, Toro Point light tower to West radio tower, Colon, 38° 58′.

Cristobal anchorge, 18-foot spot buoy.—A third-class red and black horizontal striped spar buoy in 21 feet of water to mark 18-foot spot. This buoy is set in the following position: Right tangent, steel weather tower near Port Captain's office, Cristobal, to signal tower on pier 6, 31°. Left tangent, signal tower, pier 6, to East breakwater light tower, 18° 26′.

M. L. WALKER,
Acting Governor.

Motor Car Passenger Service, Panama-Paraiso.

The time table for the Panama Railroad motor car passenger service between Panama and Paraiso is to be revised, effective Thursday, January 11, 1923, 5 a. m., and the daily service will be as follows:

Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.		Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.
P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave Arrive	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
11.45	9.15	7.10	4.25	3.00	11.40	9.30	7.50	.. Paraiso	6.55	9.20	11.30	2.50	4.15	7.00	9.10	11.05
11.50	9.20	7.15	4.30	3.05	11.45	9.35	7.55	.Pedro Miguel.	6.52	9.17	11.27	2.47	4.12	6.57	9.07	11.02
11.54	9.24	7.19	4.34	3.09	11.49	9.39	7.59	...Red Tank..	6.49	9.14	11.24	2.44	4.09	6.54	9.04	10.59
11.57	9.27	7.22	4.37	3.12	11.52	9.42	8.02	.Miraflores L'ks	6.46	9.11	11.21	2.41	4.06	6.51	9.01	19.56
12.00	9.30	7.25	4.40	3.15	11.55	9.45	8.05	.Fort Clayton.	6.44	9.09	11.19	2.39	4.04	6.49	8.59	10.54
A. M. 12.05	9.35	7.30	4.45	3.20	11.59	9.50	8.10	...Corozal....	6.39	9.04	11.14	2.34	3.59	6.44	8.54	10.49
					P. M.											
12.07	9.37	7.32	4.47	3.21	12.01	9.52	8.12	... Diablo ...	6.34	8.59	11.09	2.29	3.54	6.39	8.49	10.44
12.10	9.40	7.35	4.50	3.25	12.05	9.55	8.15	Balboa Heights	6.32	8.57	11.07	2.27	3.52	6.37	8.47	10.42
12.15	9.45	7.40	4.55	3.30	12.10	10.00	8.20	..Panama	6.25	8.50	11.00	2.20	3.45	6.30	8.40	10.35
A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	Arrive Leave	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., January 17, 1923. No. 23.

Panama Canal Shops Not Included Under United States Tariff Charges on Repairs.

Advice has been received by The Panama Canal that the Secretary of the Treasury has ruled that the provisions of the present United States tariff law which levy a 50 per cent duty on repairs made to American vessels in foreign ports, are not applicable to work done in the shops of The Panama Canal.

This decision by the Secretary of the Treasury supersedes the ruling made by the Collector of the Port of New York, to the effect that work done on American shipping in Canal Zone shops was subject to the duty. The decision of the Secretary of the Treasury puts work done on such ships in the shops of the Mechanical Division in the Canal Zone on exactly the same basis as shop work done in the continental United States.

Passage of the "Resolute" on World Tour.

The steamer *Resolute*, of the United American Lines, made the transit of the Canal from Atlantic to Pacific on January 16, with approximately 375 passengers in charge of the Raymond and Whitcomb Company. They are on a tour around the world, starting from New York.

The *Resolute* is being operated under the flag of Panama. Her stop at Balboa was made the occasion of a reception given by the line to the President of Panama and other local officials. The vessel cleared from Balboa for San Francisco shortly before midnight, January 16.

Additional Steamer for Chilean Line.

The steamer *Teno* of the Chilean Line (Compañia Sud Americana de Vapores) transited the Canal on her maiden voyage January 7 with a cargo of 4,528 tons of coal, coke, and general merchandise, en route from Greenock to Valparaiso.

The *Teno* was built by Scott's Shipbuilding & Engineering Co., Ltd., Greenock, Scotland, and is a sister ship of the *Aconcagua*, recently completed by the same firm. The dimensions of both vessels are: Length, 422.8 feet; beam, 56 feet; draft, 24 feet; with a registered gross tonnage of 7,289 tons.

The *Aconcagua* is now in service between New York and Chilean ports, and will be joined in this service by the *Teno* upon the discharge of her initial cargo. Both vessels have accommodations for 150 first-class and 100 second-class passengers. The *Teno* and *Aconcagua* are twin screw turbine vessels, rated as capable of a speed of 18 knots.

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Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 13, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Gargoyle	6	16.05	7	6.26	7	14.14	7	15.20	American	Vacuum Oil Co	425.0	57.0	20.0	Philadelphia	San Francisco	Lubricating oil	1,800	7,510	4,989
Standard	6	16.45	7	7.05	7	15.15	7	16.12	American	Standard Oil Co	523.0	68.0	21.0	New York	Los Angeles	Ballast		12,171	9,012
Colombia	6	10.43	7	8.06	7	16.35	8	13.35	American	Pacific Mail Steamship Co	380.0	48.0	22.5	Baltimore	San Francisco	General	2,089	6,015	4,281
Nordhvalen	6	18.20	7	8.45	7	18.28	7	19.40	Danish	Peter Brown & Co	320.0	41.8	15.0	Norfolk	Iquique	Ballast		3,547	2,581
Albistan	6	13.40	7	8.50	7	18.28	8	14.25	Danish	T. Nielsen	350.0	46.0	18.5	New Orleans	Valparaiso	General	2,035	3,947	2,911
F. J. Luckenbach	7	0.37	7	9.32	7	19.26	7	20.40	American	Luckenbach Line	446.0	56.0	27.8	Boston	Los Angeles	General	6,400	8,508	6,179
Marore	7	8.08	7	10.45	7	20.37	8	0.15	American	Ore Steamship Co	550.0	72.0	22.8	Baltimore	Cruz Grande	Ballast		15,551	4,297
Darien	6	16.55	7	10.40	7	19.26	8	20.35	Panaman	H. Obarrio & Co	98.0	26.9	7.5	Cristobal	Balboa	Ballast		169	50
Essequibo	6	18.00	8	6.18	8	14.58	8	16.00	British	Pacific Steam Navigation Co	450.0	57.0	23.0	New York	Valparaiso	General	1,733	9,099	6,117
Laura C. Hall [1]	6	17.07	8	7.28	8	16.26	9	10.49	British	Pacific Metals Corporation	81.0	26.0	9.0	Cristobal	Buenaventura	General	15	132	72
Mahana	7	15.20	8	7.15	8	16.30	8	21.33	British	Shaw, Savill & Albion	499.7	63.3	26.6	London	Auckland	General	4,035	12,151	8,727
Frankenwald	7	15.37	8	8.15	8	17.19	8	18.10	German	Hamburg-American Line	403.0	51.0	19.0	Hamburg	Guayaquil	General	953	6,575	4,490
Lake Gadsden	7	18.51	8	8.45	8	17.35	8	18.40	American	Lykes Brothers (S. B.)	253.4	43.8	19.8	Covenas	Callao	Cattle	450	2,968	2,078
Teno	7	22.35	8	9.30	8	18.22	9	7.39	Chilean	Chilean Line	422.8	56.0	24.0	Greenock	Valparaiso	Gen., coke, coal	4,698	7,758	4,672
Hoven	8	6.55	8	10.03	8	19.09	8	20.23	American	Walker & Daly (S. B.)	434.8	56.2	20.0	Norfolk	Los Angeles	Ballast		7,587	5,305
Steel Seafarer	7	21.37	8	11.00	8	19.55	8	20.50	American	U. S. Steel Products Co	424.2	56.2	26.0	New York	Vancouver	General, steel	8,405	7,611	5,454
J. W. Van Dyke	8	11.52	8	12.03	8	20.53	8	22.02	American	Atlantic Refining Co	435.0	56.0	22.0	Philadelphia	Los Angeles	Ballast		7,460	5,215
Peru [2]	8	11.57	9	6.19	9	14.20	9	15.30	Danish	East Asiatic Co	425.0	55.0	19.5	Copenhagen	Seattle	General	4,792	7,407	5,660
Transvaal	8	14.36	9	7.32	9	18.38	9	19.30	Danish	Orient Steamship Co	349.8	49.7	20.0	Aalborg	Talcahuano	General	3,000	4,853	3,476
Mystic	8	23.50	9	8.11	9	19.19	9	20.31	American	United American Lines	400.0	54.0	27.0	New Orleans	Los Angeles	General	7,670	6,623	4,625
Orleans	9	2.25	9	8.47	9	20.03	9	21.02	American	Orleans Steamship Corporation	395.0	55.0	25.0	New York	Los Angeles	General	6,000	7,330	5,233
Eastern Moon	9	9.00	9	9.15	9	20.48	9	21.56	American	U. S. & Australian Line (S. B.)	384.0	51.0	24.0	New York	Brisbane	General	6,000	5,904	4,321
Highland Heather	9	7.07	9	11.42	9	21.26	9	22.34	British	Nelson Line	389.0	52.0	18.0	Liverpool	Seattle	Ballast		6,275	4,550
Anglo-Saxon	9	15.47	10	6.35	10	15.16	10	16.32	British	Schofield Shipping Co	380.3	50.2	24.4	Tyne	San Francisco	Iron, coke, clay	5,111	5,436	3,939
Esther Dollar	10	9.48	10	10.28	10	17.40	11	2.02	British	Robert Dollar Line	483.0	57.0	26.0	Marseilles	Yokohama	General	4,139	9,873	7,140
Denderah	10	9.55	10	11.30	10	19.03	10	20.02	German	Kosmos Line	328.0	51.0	20.0	Antwerp	Buenaventura	General	4,000	4,924	3,524
Titan	10	6.45	10	13.10	10	20.15	10	21.35	British	Alfred Holt & Co	485.0	58.0	29.0	New York	Yokohama	General	7,722	9,293	6,388
Bologna	8	10.25	11	6.12	11	13.32	11	14.42	Italian	Italian Line	384.9	46.7	19.7	Genoa	Valparaiso	General	455	5,531	3,773
Maple Branch	10	15.25	11	7.35	11	14.32	11	15.37	British	F. and W. Ritson	400.0	52.0	20.4	Port Talbot	Corral	General	4,586	5,618	4,116
Houma	10	22.09	11	8.15	11	15.35	11	16.49	American	McAllister Brothers (S. B.)	434.0	56.0	19.0	Galveston	Los Angeles	Ballast		7,624	5,368
Kiel	11	6.55	11	8.45	11	16.25	11	23.26	German	Kosmos Line	338.9	47.5	17.0	Hamburg	Puntarenas	General	592	4,436	2,764
Imperial	8	14.15	11	10.25	11	17.20	11	18.35	Chilean	Chilean Line	336.8	41.2	23.10	Cristobal	Valparaiso	General	555	3,296	2,156
Toco	11	10.24	11	10.45	11	18.56	11	19.58	British	Sheridan Steamship Co	440.0	56.0	27.0	Tampico	Tocopilla	Crude oil	9,800	7,693	4,885
Kaikoura	8	19.15	12	6.22	12	13.56	12	15.12	British	New Zealand Shipping Co	460.0	58.0	29.0	Liverpool	Auckland	General	8,960	9,057	6,438
Heffron	11	20.40	12	7.28	12	14.47	12	15.53	American	Tampa Interocean Co. (S. B.)	440.0	56.0	28.6	New Orleans	Shanghai	General	7,252	8,349	6,201
Sherman	12	1 22	12	8.02	12	15 51	12	17.00	American	Sherman Steamship Co	400.3	45.3	18.6	New York	Tocopilla	General	1,206	5,037	3,492

[1] Motor schooner.

[2] Motor ship.

Canada Maru	12	3.45	12	8.55	12	17.28	12	18.39	Japanese	Osaka Shosen Kaisha	400.0	51.8	23.0	New Orleans	Yokohama	General	3,659	5,999	4,101
City of Bristol	12	5.24	12	9.20	12	19.05	12	20.33	British	Ellerman Lines	452.0	56.6	25.0	New York	Yokohama	General	6,331	8,044	6,102
William H. Doheny	11	16.02	13	6.25	13	13.55	14	9.20	American	Pan-American Pet. & Trans. Co.	435.0	56.2	22.0	New Orleans	Los Angeles	Crude oil[4]	6,260	7,624	5,329
Pyro[3]	12	21.05	13	7.30	13	14.40	....	.....	American	U. S. Navy	483.10	60.10	24.0	New York	San Diego	Naval supplies	3,389	.....	.....
Munaires	12	22.23	13	8.55	13	18.05	13	21.18	American	Munson Line	370.0	53.0	19.8	Baltimore	San Diego	General	4,175	5,577	4,225
E. T. Bedford	12	23.37	13	9.25	13	18.54	13	20.17	American	Standard Oil Co	499.0	68.0	17.0	New York	Los Angeles	Ballast	.....	.....	.....
Zabalbide	12	23.52	13	10.45	13	19.43	13	20.56	Spanish	Bilbao Maritime Co	331.0	46.9	12.6	Cardiff	Guayamas	Ballast	.....	3,418	2,180
Canadian Cruiser	13	10.00	13	11.15	13	20.40	14	13.51	British	Canadian Government	430.0	56.0	18.6	Halifax	Brisbane	General	3,543	7,680	5,494
Point Judith	13	8.05	13	11.53	13	21.26	13	22.55	American	Pacific Mail Steamship Co	289.0	44.0	16.6	New York	San Francisco	General mdse	1,700	2,895	1,982

[3] Ammunition ship. [4] For Canal ports.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

West Notus	2	1.27	7	7.07	7	14.40	7	14.40	American	Swayne & Hoyt	410.5	54.3	25.0	San Francisco	Buenos Aires	General	3,991	6,513	4,914
Irish Monarch	6	23.00	7	8.04	7	15.50	7	16.30	British	Rearburn & Verel	385.4	48.7	24.0	Iquique	Wilmington	Nitrate	6,601	4,662	3,397
Havre Maru	7	1.30	7	8.14	7	16.42	7	19.15	Japanese	Kukusai Kisen Co	400.0	53.0	25.0	Kobe	United King	Wheat	7,000	5,886	4,284
Commercial Pathfinder	7	6.40	7	9.25	7	17.07	7	17.07	American	Osage Steamship Co	395.4	49.4	24.0	Seattle	New York	General	6,050	5,220	3,734
Huallaga	7	8.00	7	12.04	7	19.05	14	10.38	Peruvian	Peruvian Line	360.0	44.7	21.0	Iloilo	Cristobal	General	1,492	4,514	2,386
Hazel Branch	7	12.35	7	13.45	7	21.05	8	23.22	British	F. and W. Ritson	400.4	51.2	22.0	Valparaiso	Liverpool	General	6,179	4,208	3,578
Imperial	7	1.00	8	7.15	8	14.15	11	10.25	Chilean	Chilean Line	336.8	41.2	22.0	Valparaiso	Cristobal	General	64	3,296	2,156
Santa Ana	8	6.30	8	7.58	8	14.58	8	21.35	American	Grace Line	360.2	51.6	24.2	Talcahuano	New York	Nitrate	3,910	5,776	4,081
Saint Joseph	8	5.00	8	8.28	8	16.54	8	20.07	French	French Line	121.0	15.0	24.9	Vancouver	Havre	General	6,337	5,979	4,170
Borglum	8	4.45	8	9.47	8	18.25	9	2.11	Danish	C. K. Hansen	285.6	42.2	20.3	Talcahuano	New Orleans	Nitrate	3,369	2,641	1,877
Byron D. Benson	7	20.30	8	10.06	8	17.50	8	17.50	American	Tidewater Oil Co	465.4	60.2	27.0	San Pedro	New York	Oil	11,430	8,546	6,095
Cuba	8	8.15	8	11.35	8	19.10	....	.....	American	Pacific Mail Steamship Co	307.7	42.2	16.0	San Francisco	Cristobal	General	583	3,429	2,206
Meiwu Maru	8	14.20	9	7.04	9	15.18	9	16.55	Japanese	Taiho Kisen Kaisha	445.0	58.0	28.0	Portland	United King	Wheat	9,132	8,299	5,979
Jason	8	14.30	9	9.55	9	16.33	....	.....	American	U. S. Government	514.0	65.0	22.0	San Diego	Hampton R'ds	Ballast	.....	.....	.....
David McKelvy	9	2.00	9	12.35	9	20.53	9	20.53	American	Tidewater Oil Co	430.0	59.2	26.8	San Pedro	New York	Oil	7,500	7,629	5,393
Caprella	9	9.00	9	12.12	9	19.46	9	23.38	British	Anglo-Saxon Petroleum Co	400.0	52.3	25.6	Los Angeles	Gibraltar[5]	Oil	7,600	6,063	4,087
Radames	9	9.15	9	10.55	9	19.10	9	21.35	German	Kosmos Line	409.0	51.0	25.0	Corral	Hamburg	General	5,283	4,971	3,486
Arabien	9	12.55	9	13.35	9	22.00	9	23.35	Danish	Orient Steamship Co	373.9	51.8	28.0	Valparaiso	Liverpool	General	8,350	6,008	4,665
Rotarian	9	17.00	10	7.09	10	15.16	10	15.16	American	U. S. Shipping Board	380.3	53.1	23.9	Antofagasta	New York	Nitrate	6,592	5,660	4,095
Texan	10	8.10	10	10.35	10	17.57	10	23.12	American	American-Hawaiian Line	411.0	58.0	30.0	Vancouver	Hamburg	General	11,500	9,154	6,926
Ebro	10	13.30	10	14.58	10	21.45	11	11.26	British	Pacific Steam Navigation Co	450.3	58.0	25.5	Valparaiso	New York	General cargo	4,173	9,151	6,227
Steelore	12	13.45	12	13.41	13	11.05	13	11.05	American	Ore Steamship Co	550.3	72.2	34.0	Cruz Grande	New York	Iron ore	19,200	15,551	4,411
Maindy Court	12	14.10	12	15.01	13	9.25	13	11.15	British	Watts, Watts & Co	349.0	51.0	22.6	Makatea	Norfolk[5]	Phosphates	6,055	5,026	3,752
Tiger	13	4.00	13	7.48	13	15.02	13	15.02	American	Standard Transport. Co	410.0	56.0	24.0	Puget Sound	Baltimore	General	6,700	8,243	6,312
Kifuku Maru	13	6.00	13	8.40	13	17.00	13	18.10	Japanese	Kabushiki Kisen Kaisha	385.0	51.0	25.7	Portland	United King	Wheat	6,600	5,919	4,389
Delaware	13	10.45	13	11.26	13	20.05	14	7.30	British	Anglo-American Oil Co	345.0	44.3	26.3	San Francisco	London	Oil	4,866	3,968	2,512
Saint Andre	13	13.30	13	14.40	13	22.03	13	23.30	French	French Line	397.9	50.3	26.0	Valparaiso	Bordeaux	Nitrate, tahua	6,350	5,917	4,146
Indiana	13	13.30	13	14.51	13	23.55	14	16.20	French	French Line	417.0	55.0	27.0	Vancouver	Havre	General	7,595	7,157	4,936

[5] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 290, column 2.)

Anticipated Shipments of Oil Through Canal in 1923.

A recent issue of *The Lamp*, a publication devoted to the interests of the Standard Oil Company of New Jersey, states that a movement of 9,000,000 barrels of California oil to Atlantic seaboard refineries is anticipated in 1923 to offset the decline in the output of the Mexican fields.

To meet these requirements, the Standard Oil Company has recently placed several of its largest tankships in the service between Los Angeles and New York, among which are the *William Rockefeller* and other vessels of the same capacity, each of which can handle cargoes of 140,000 barrels of oil. To transport 9,000,000 barrels of oil in vessels of this type would be equivalent to one vessel making approximately 64 round trips.

The *William Rockefeller* pays in tolls on each transit through the Canal $10,971.25 when laden and $7,425.36 when in ballast, making a total of $18,396.61 on each round voyage. If the entire 9,000,000 barrels of oil were transported in vessels of this type and capacity, the tolls would aggregate $1,177,383.04.

The Lamp also estimates that the tankships would consume three-quarters of a million barrels of oil as fuel in transporting the above quantity of oil, equivalent to one barrel consumed as fuel for each 12 barrels transported. The tolls would approximate 13 cents per barrel if transported in vessels of the *William Rockefeller* type. A freight rate of 70 cents per barrel is quoted by the above publication as the amount received in transporting oil cargoes.

Visit of Yacht "Ohio."

The seagoing diesel yacht *Ohio*, belonging to Mr. E. W. Scripps and registered in Cincinnati, passed through the Canal on January 6, with 11 passengers, en route from New York to San Diego, via various Caribbean and west coast ports. She lay at anchor in the outer harbor at Balboa until the evening of January 13, when she cleared for Puntarenas, Costa Rica.

In point of displacement and tonnage the *Ohio* is reported to be the largest American-built diesel yacht. She was designed with particular reference to extended offshore cruising and is of heavy construction and displacement. Her principal dimensions are: Length over all, 172 feet; beam 26 feet; draft 11 feet 6 inches. Besides having commodious accommodations for the owner and his guests, provision has been made for quarters for a clerical staff so that the owner may, by means of radio, give attention to urgent business matters while cruising. The power plant consists of two 350-horsepower 6-cylinder diesel engines, capable of a normal speed of 12 knots an hour. Sufficient oil capacity has been provided to give a cruising radius of 9,500 miles, and facilities for carrying other stores are in proportion.

Notice to Mariners.—Aids to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 10, 1923.

The Master of the United Fruit Company's steamship *Tivives* reports that the Morro Grande light, Santa Marta, Colombia, reported not functioning on January 2, is now operating correctly.

M. L. WALKER,
Acting Governor.

Comparison of Traffic in Calendar Years 1921 and 1922.

A comparative statement of traffic through the Panama Canal during the calendar years 1921 and 1922, by months, is shown on page 286 of this issue.

TRAFFIC FOR 1922 SHOWS INCREASE OVER 1921.

A study of this statement shows that for the year 1922 in the Atlantic-to-Pacific traffic there was an increase over the preceding year of 11 per cent in the number of transits, 15 per cent in tolls, 20 per cent in net tonnage, and 29 per cent in cargo tonnage.

In the Pacific-to-Atlantic traffic there was an increase over the year 1921 of 3 per cent in the number of transits, 7 per cent in net tonnage, 8 per cent in tolls, and 27 per cent in cargo tonnage.

Combined, the traffic in both directions, showed an increase over 1921 of 8 per cent in the number of transits, 12 per cent in tolls, 14 per cent in net tonnage, and 28 per cent in cargo tonnage.

TRAFFIC FOR LAST 6 MONTHS OF 1922 GREATLY EXCEEDS THAT FOR FIRST 6 MONTHS.

As compared with the first 6 months of the year 1922, the last half of the year showed an increase of 21 per cent in number of transits, 26 per cent in tolls, 29 per cent in net tonnage, and 37 per cent in cargo tonnage. This increase was particularly marked in the Pacific-to-Atlantic traffic, the last half of the year showing an increase over the first half of 32 per cent in the number of transits, 43 per cent in the net tonnage, 45 per cent in tolls, and 93 per cent in cargo tonnage.

TRAFFIC FOR PERIOD JANUARY 1 TO JUNE 30, FOR YEARS 1921 AND 1922.

Traffic from the Atlantic-to-Pacific for the first half of the year 1922 showed an increase over the corresponding period for 1921 of 8 per cent in the number of transits, 10 per cent in tolls, and 14 per cent on both net and cargo tonnage.

In the Pacific-to-Atlantic traffic for this period, the year 1922 showed a decrease from 1921 of 15 per cent in the number of transits and net tonnage, a 13 per cent decrease in tolls, and a 9 per cent decrease in cargo tonnage.

Combining the traffic in both directions, it will be noted that for the first half of the year the number of transits, the net tonnage and tolls for 1922 were slightly under 1921, while the cargo tonnage was a little greater.

TRAFFIC FOR PERIOD JULY 1 TO DECEMBER 31, FOR YEARS 1921 AND 1922.

In the Atlantic -to-Pacific traffic for the last half of the year 1922 there was an increase over the corresponding period of 1921 of 16 per cent in the number of transits, 20 per cent in tolls, 25 per cent in net tonnage, and 48 per cent in cargo tonnage.

In the Pacific-to-Atlantic traffic for the corresponding period the increase was even more marked, the number of transits for 1922 showing an increase of 22 per cent over 1921, the net tonnage and tolls an increase of 30 per cent, and cargo tonnage 61 per cent increase.

The combined traffic in both directions for the last half of the calendar year 1922 shows an increase over the preceding year of 19 per cent in the number of transits, 24 per cent in tolls, 27 per cent in net tonnage, and 55 per cent increase in cargo tonnage.

Comparative Summary of Commercial Traffic Through the Panama Canal During the Calendar Years 1921 and 1922, by Months.

VESSELS TRANSITING THE CANAL FROM THE ATLANTIC TO THE PACIFIC.

	Number of vessels.		Panama Canal net tonnage.		Tolls.		Tons of cargo.	
	1921.	1922.	1921.	1922.	1921.	1922.	1921.	1922.
January	134	125	517,719	513,764	$535,824.31	$516,256.62	557,158	493,591
February	114	114	435,233	488,005	449,616.59	482,033.41	474,872	442,825
March	140	138	613,591	586,041	635,165.10	589,374.55	636,579	581,952
April	118	121	492,506	520,688	490,505.91	505,319.46	509,801	562,433
May	100	134	414,429	594,713	412,934.09	578,433.82	381,323	673,398
June	103	135	415,302	594,196	416,543.07	571,161.36	359,584	586,377
One-half year	709	767	2,888,780	3,297,407	2,940,589.07	3,234,479.22	2,910,317	3,340,576
July	105	128	403,051	574,231	405,220.18	549,218.11	258,449	542,412
August	120	141	487,219	611,862	435,017.24	576,958.32	317,970	556,761
September	128	126	530,634	582,416	513,793.61	545,856.98	300,720	467,836
October	131	159	571,175	712,452	541,994.93	657,837.91	374,437	565,075
November	123	148	539,017	694,963	528,209.07	636,330.48	386,681	591,378
December	135	161	575,669	717,877	571,743.49	659,185.59	517,110	560,418
One-half year	742	863	3,106,765	3,893,801	3,025,978.52	3,625,387.39	2,155,358	3,193,880
Total for year	1,451	1,630	5,995,545	7,191,208	5,966,567.59	6,859,835.61	5,065,675	6,534,456

VESSELS TRANSITING THE CANAL FROM THE PACIFIC TO THE ATLANTIC.

January	145	85	576,604	332,752	560,033.15	331,510.93	619,895	313,707
February	127	98	481,605	398,530	467,706.20	383,332.77	478,932	395,249
March	115	96	499,227	389,770	470,371.45	376,352.21	447,984	378,137
April	109	109	462,997	454,145	437,471.18	447,936.65	436,812	483,614
May	110	109	450,188	438,103	422,918.68	436,623.55	411,412	485,109
June	89	93	346,175	376,517	335,421.05	361,120.06	335,136	391,101
One-half year	695	590	2,816,796	2,389,817	2,694,041.71	2,336,835.17	2,699,271	2,446,917
July	101	123	407,562	553,640	399,282.93	544,909.31	450,542	668,088
August	116	116	478,057	472,271	490,363.54	478,378.43	521,303	609,189
September	93	114	394,509	487,994	378,207.93	474,207.57	454,174	670,352
October	124	135	498,378	597,940	535,940.69	597,670.09	611,333	880,788
November	99	146	403,394	642,317	394,830.63	628,105.05	468,750	925,482
December	104	143	441,575	657,386	431,854.78	653,381.53	435,943	974,684
One-half year	637	777	2,623,470	3,411,548	2,600,489.50	3,376,655.99	2,942,959	4,729,183
Total for year	1,332	1,367	5,440,266	5,801,365	5,294,531.21	5,713,541.16	5,641,330	7,176,100

COMBINED TRAFFIC THROUGH THE CANAL IN BOTH DIRECTIONS.

January	279	210	1,094,323	846,516	1,095,857.46	847,767.55	1,177,053	807,298
February	241	212	916,838	886,535	917,412.79	865,236.18	952,904	838,074
March	255	234	1,112,818	975,811	1,105,536.55	956,726.76	1,084,563	960,089
April	227	230	955,503	974,833	927,977.09	953,255.11	947,613	1,046,047
May	210	243	864,617	1,032,816	835,882.77	1,015,057.37	792,735	1,158,507
June	192	228	761,477	970,713	751,964.12	932,290.42	694,720	977,478
One-half year	1,404	1,357	5,705,576	5,687,224	5,634,630.78	5,571,364.39	5,609,588	5,787,493
July	206	251	810,613	1,127,871	804,503.11	1,094,127.42	708,989	1,211,100
August	236	257	965,276	1,084,133	955,380.78	1,055,336.75	839,273	1,165,950
September	221	240	925,137	1,070,410	892,001.54	1,020,064.55	754,894	1,138,188
October	255	294	1,069,554	1,310,392	1,047,935.62	1,255,508.00	985,775	1,445,863
November	222	294	942,411	1,337,280	923,048.70	1,264,436.54	855,440	1,426,860
December	239	304	1,017,244	1,375,263	1,003,598.27	1,312,570.12	953,053	1,535,102
One-half year	1,379	1,640	5,730,235	7,305,349	5,626,468.02	7,002,043.38	5,097,417	7,923,063
Total for year	2,783	2,997	11,435,811	[1]12,992,573	11,261,098.80	12,573,407.77	10,707,005	13,710,556

[1] Corrects figure shown on page 267 of THE PANAMA CANAL RECORD under date of January 3, 1923.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Three Weeks Ending January 13, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Salvador	Pacific Steam Navigation Co		December 24		1,167
Garfield	Grace Line	December 24	December 24	4	1
General W. C. Gorgas	Panama Railroad Steamship Line	December 24		3,011	
Atenas	United Fruit Co	December 24	December 26	(1)	93
Ulua	United Fruit Co	December 26	December 27	223	380
Venezuela	Royal Netherlands W. I. Mail	December 26	December 27	74	10
Heredia	United Fruit Co	December 26	December 29	585	(2)
Santa Tecla	Grace Line	December 27	December 27	107	(2)
Manavi	Pacific Steam Navigation Co		December 28		230
Carrillo	United Fruit Co	December 27	December 28	250	412
Urubamba	Peruvian Line	December 28		1,511	
Sixaola	United Fruit Co	December 28	December 28	2	130
Santa Clara	Pacific Mail Steamship Co	December 28	December 28	155	19
Antiochia	Hamburg-American Line	December 30		94	
San Benito	United Fruit Co	December 30	December 30	6½	129
Venezuela	Royal Netherlands W. I. Mail	December 30	December 30	(1)	568
Panama	Panama Railroad Steamship Line	December 30		1,898	
Antiochia	Hamburg-American Line		December 31		237
Gen. W. C. Gorgas	Panama Railroad Steamship Line		December 31		2,048
Santa Marta	United Fruit Co	December 31	January 1	(1)	90¼
Ansaldo San Giorgio I.	Societa Nazionale di Navigazione	December 31	December 31	(1)	15
Huasco	Chilean Line	December 31	January 4	87	869
Acajutla	Pacific Steam Navigation Co	December 31	January 5	765	1,154
Logan	Pacific Mail Steamship Line	January 1	January 2	(1)	252
Solana	Pacific Mail Steamship Line	January 1	January 3	9,499	(2)
Alaska	French Line	January 1	January 3	172	20
San Bruno	United Fruit Co	January 2	January 3	18	(2)
Helder	Royal Netherlands W. I. Mail	January 2	January 2	1	(2)
Haarlem	Royal Netherlands W. I. Mail	January 2	January 3	300	(2)
Venezuela	Pacific Mail Steamship Co	January 2	January 3	139	210
Gen. G. W. Goethals	Panama Railroad Steamship Line	January 2	January 3	229	250
Parismina	United Fruit Co	January 2	January 4	599	(2)
Corinto	Pacific Mail Steamship Co	January 2	January 5	503	766
Tivives	United Fruit Co	January 3	January 4	98	81
Camden	United Fruit Co	January 3	January 5	8,936	(2)
Toloa	United Fruit Co	January 3	January 3	271	18
Candidate	Harrison Line	January 3	January 6	574	(2)
Balboa	Johnson Line	January 4	January 5	60	(2)
Carrillo	United Fruit Co	January 4	January 4	(1)	57
Santa Marta	United Fruit Co	January 4	January 4	17½	93
Macoris	French Line	January 5		141	
Coronado	Elders & Fyffes, Ltd	January 6	January 6	7	(2)
Laura C. Hall	Pacific Metals Corp	January 6		36	
Darien	Pacific Metals Corp	January 6		40	
Orcoma	Pacific Steam Navigation Co	January 6		5	
Essequibo	Pacific Steam Navigation Co	January 6		568	
Colombia	Pacific Mail Steamship Line	January 6		297	
Urubamba	Peruvian Line		January 6		740
Orcoma	Pacific Steam Navigation Co		January 7		98
Abangarez	United Fruit Co	January 7	January 8	(1)	165
Macoris	French Line		January 8		182
Laura C. Hall	Pacific Metals Corporation		January 8		19
Essequibo	Pacific Steam Navigation Co		January 8		108
Huallago	Peruvian Line	January 7		1,492	
Santa Ana	Grace Line	January 8	January 8	(1)	135
Borglum	N. O. & S. A. S. S. Line	January 8	January 8	135	(2)
Transvaal	Danish East Asiatic S. S. Co	January 8	January 9	40	36
Peru	Danish East Asiatic S. S. Co	January 8	January 9	51	(2)
Cuba	Pacific Mail Steamship Co	January 8		583	
Imperial	Chilean Line	January 8	January 11	67	554
Bologna	Italian Line	January 8	January 11	136	(1)
Calamares	United Fruit Co	January 9	January 10	296	50
Cartago	United Fruit Co	January 9	January 11	876	(2)
Montevideo	Italian Line	January 9	January 12	196	33
Stuyvesant	Royal Netherlands W. I. Mail	January 10	January 10	13½	(2)
Metapan	United Fruit Co	January 10	January 11	172	65
Ebro	Pacific Steam Navigation Co	January 10	January 11	3	140
William H. Doheny	Pan-Amer. Pet. and Transp. Co	January 11	January 13	3,000	(2)
Tivives	United Fruit Co	January 11	January 11	8	58
Abangarez	United Fruit Co	January 11	January 11	(1)	30
Stuyvesant	Royal Netherlands W. I. Mail	January 12	January 13	(4)	513
San Blas	United Fruit Co	January 13	January 13	8	190
Colon	Panama Railroad Steamship Line	January 13		2,282	
Kinderdijk	Holland-American Line	January 13		103½	
Saint Louis	French Line	January 13		46	

[1] No cargo discharged. [2] No cargo laded. [3] 900 pounds. [4] One case.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending January 13, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Acajutla	Pacific Steam Navigation Co	December 31	December 31	8	
Venezuela	Pacific Mail Steamship Co	January 1	January 2	21	
Corinto	Pacific Mail Steamship Co	January 2	January 2	22	
West Notus	Swayne & Hoyt	January 3		1,661	
Ansaldo San Giorgio II	Societa Nazionale di Navigazion	January 4	January 4	82	
Corinto	Pacific Mail Steamship Co	January 5	January 5		17
Balboa	Johnson Line	January 5	January 5	46	
Acajutla	Pacific Steam Navigation Co	January 5	January 5		2
Theodore Roosevelt	Norway-Pacific Line	January 5	January 6	100	
Darien	Pacific Metals Transp. Co., Ltd	January 5		45	
Laura C. Hall	Pacific Metals Transp. Co., Ltd	January 5	January 6	4	
Darien	Pacific Metals Transport. Co., Ltd.	January 5	January 7		22
Laura C. Hall	Pacific Metals Transport. Co., Ltd.	January 8	January 8		46
Cuba	Pacific Mail Steamship Co	January 8	January 8	21	
Kiel	Kosmos Line	January 11	January 11	13	
Sinaloa	Latin-American Line	January 11	January 11		22

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the past 2 weeks, ending January 6:

Tug *Cocoli*, dock, clean and paint, tighten up propeller; steamships *Ceres*, repair and test out coil for refrigerating machine; *West Notus*, repair broken winch frame (weld); *Darien*, manufacture new ash pan.

PREVIOUSLY REPORTED.

Motor boat *Chiralite*, remove and install main engines, complete; dock, install new propeller and miscellaneous repairs in connection with engine installation; U. S. submarine *O–13*, dock, stage and clean; painting and routine docking repairs; Colombian Coast Guard cutter *No. 3*, general repairs to hull, machinery, and deck house; motor ship *Ligia Elena*, remove boat from water; install new engine, and make necessary repairs in connection with installation; D. B. *L–55*, held at Balboa shops awaiting casual repairs.

The following vessels were at the Cristobal shops during the week ended January 6:

Steamships *Hazel Branch*, braze main steam pipe; *Kai Koura*, repair copper steam pipe; *Urubamba*, repair staybolt as directed; *Logan*, manufacture 3 kinghorn valves disks, 6 rubber valves, and new float for auxiliary condenser; *Alaska*, repair valve; *Acajutla*, repair plumbing, fire hose couplins, scupper pipe in No. 3 'tween deck, ring bolts in hatch covers, and lock on purser's safe; manufacture 3 cones for oil burners and gland nut for fuel oil pump, etc.; *Cristobal*, manufacture 8 valve seats, 8 valve studs and 8 disks as samples for firepump; repair trap on deck and install steam table; furnish diver to examine propeller.

Plague Menace.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 3, 1923.

TO ALL DEPARTMENTS AND DIVISIONS:

At the present time bubonic plague is probably the most widely distributed of the major pestilences that endanger the human race. A broad band of infection with this disease encircles the globe and it is especially prevalent in countries near to and having frequent communication with the Canal Zone. Seaports are principally affected and it is proven that ships are the means by which it is carried from place to place.

Rats and other members of the rodent family are the reservoir in which the disease is maintained, and from them it is spread to man by fleas which desert the body of the sick or dead animal and become parasites of man. The only efficacious means of combating bubonic plague is to concentrate on a war against the rat family and kindred rodents.

A single case of plague upon the Canal Zone would entail untold expense and embarrassment upon the Government, and were it introduced into the native rodent

population of the Isthmus (there are many wild as well as the domestic species here) the cost of control would be incalculable and its complete eradication almost impossible.

Attention is called to the Governor's circular No. 707; memorandum of the Chief Health Officer approved by the Governor, dated May 14, 1917; and to the building regulations of The Panama Canal, regarding storage of hay, grain, building materials, etc., and the rat-proofing of buildings. Strict compliance with instructions contained in these circulars and regulations is enjoined upon all responsible parties; the local health officer or sanitary inspector should be consulted before any such work is started, and the fullest cooperation with the Health Department is directed in order to secure the desired result.

Similar regulations have been promulgated by the Commanding General, Panama Canal Department (Sec. IX, par. 62, GO-1, H. P. C. D. 1922).

M. L. WALKER,
Acting Governor.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective January 16, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy,i n drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine,g as, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Colon	January 5	January 10	January 13	January 19	January 22	January 26.
Gen. W. C. Gorgas	January 15	January 21	January 24	January 29	February 1	February 6.
Panama	January 25	January 30	February 2	February 9	February 12	February 16.
Colon	February 5	February 10	February 13	February 19	February 22	February 26.
Gen. W. C. Gorgas	February 14	February 20	February 23	February 28	March 3	March 8.
Panama	February 24	March 1	March 4	March 9	March 12	March 16.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity .. .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Information from American Consuls.

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MOVEMENTS OF OCEAN VESSELS.—Continued from page 283.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
January 7	Abangarez	United Fruit Co	New Orleans via Habana.
January 7	San Bruno	United Fruit Co	Port Limon.
January 9	Calamares	United Fruit Co	New York via Habana.
January 9	Cartago	United Fruit Co	New Orleans via Habana.
January 9	Montevideo	Spanish Line	Barcelona via wayports.
January 10	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.
January 10	Metapan	United Fruit Co	New York via Kingston.
January 11	Tivives	United Fruit Co	Colombian ports.
January 11	Abangarez	United Fruit Co	Bocas del Toro.
January 12	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
January 13	Colon	Panama Railroad Steamship Line	New York via Haiti.
January 13	San Blas	United Fruit Co	Boston via wayports.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
January 11	Sinaloa	A. O. Lindvig	Guayaquil.

*DEPARTURES.

Date.	Vessel.	Line.	For—
January 7	San Bruno	United Fruit Co	Boston.
January 8	Macoris	French Line	Havre via wayports.
January 8	Abangarez	United Fruit Co	Bocas del Toro.
January 9	Canopus	U. S. Navy	Hampton Roads.
January 10	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
January 10	Panama	Panama Railroad Steamship Line	New York via Haiti.
January 10	Calamares	United Fruit Co	New York via Port Limon and Habana.
January 10	Cartago	United Fruit Co	New Orleans and wayports.
January 11	Metapan	United Fruit Co	Colombian ports.
January 11	Tivives	United Fruit Co	New York via Kingston.
January 11	Abangarez	United Fruit Co	New Orleans.
January 12	Montevideo	Spanish Line	Barcelona via wayports.
January 13	San Blas	United Fruit Co	Boston.
January 13	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.

PORT OF BALBOA.

Date.	Vessel.	Line.	For—
January 11	Sinaloa	A. O. Lindvig	San Francisco.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., January 24, 1923. No. 24.

Argonaut Steamship Line Enters Intercoastal Trade.

The entry of the Argonaut Line into the United States intercoastal traffic was inaugurated by the voyage of the steamship *Sagadahoc*, which passed through the Canal on January 17, carrying 8,900 tons of steel and general merchandise, en route from New York to Pacific Coast ports.

The *Sagadahoc* left New York January 6, and will be followed by the steamship *Maine*, which was scheduled to sail January 20, and the *Pacific*, sailing February 7. Further sailings from the Atlantic coast have not been announced, but it is understood that the steamers *Henry S. Grove* and *Charles H. Cramp*, formerly operated in the intercoastal trade by the Atlantic, Gulf and Pacific Steamship Company, will be added to the schedule.

The Argonaut Line will handle freight only, and announces direct service between New York and San Francisco. Other Pacific ports of call will be Seattle and Portland.

Ninety Ships Through the Canal Last Week.

Reference to the report, "Movements of Ocean Vessels," appearing on pages 292, 293, and 294 of this issue, shows that a total of 90 vessels, commercial and noncommercial, transited the Canal during the week ending at midnight, January 20. There were 73 transits for the week ending January 13, and 60 transits for the last 6 days of the week ending January 6. This gives a total of 223 transits for the first 20 days of the new year, or an average of 11.15 vessels transiting the Canal daily since January 1.

For the year ending December 31, 1922, the total number of transits was 3,289, or an average of 9.01 vessels per day. Of these 3,289 vessels, 2,997 were ocean-going commercial vessels paying tolls, 209 were Government vessels transiting the Canal free of tolls, and 83 were small launches and miscellaneous nonoceangoing craft, which though paying tolls were not included as "commercial" ships.

Of the 90 vessels transiting the Canal during the week ending January 20, 82 were ocean-going commercial vessels, 7 Government vessels, and 1 was a small nonseagoing craft under 10 tons measurement.

Notice to Mariners.—Night Airplane Flights.

THE PANAMA CANAL, EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., January 17, 1923.

At times of night airplane flights (perhaps twice a month) a fixed red light will be displayed from the Coco Solo water-tower. When this light is to be shown, radio notice will be broadcasted beforehand.

The light is fixed red, 1,400 candlepower, visible in arc of 360° horizontal and vertical; is 185 feet above the sea, has a visibility of about 10 miles. Location, latitude 9° 22′ 27″ north; longitude 79° 53′ 8.7″ west.

M. L. WALKER, *Acting Governor.*

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 20, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kinderdijk	13	6.35	14	6.05	14	14.10	14	15.00	Dutch	Holland-American Line	470.0	58.2	18.5	Rotterdam	San Francisco	General	2,390	8,515	6,068
Saint Louis	13	15.16	14	7.13	14	18.25	14	19.20	French	French Line	398.0	50.0	17.1	Antwerp	Valparaiso	General	660	5,857	4,166
Argosy	13	21.35	14	8.05	14	19.25	15	2.10	American	Wessel Duval & Co. (S. B.)	390.0	54.2	16.6	New York	Talcahuano	General	964½	6,203	4,280
Robin Goodfellow	14	0.36	14	9.00	14	17.34	14	22.23	American	Skinner Eddy Co	428.8	55.0	27.6	Baltimore	Los Angeles	General	9,360	7,473	5,536
Newby Hall	14	6.56	14	9.40	14	20.19	14	21.23	British	Ellerman Hall Lines	375.0	49.0	22.6	New York	Auckland	General	3,750	4,750	3,483
Huallaga	7	19.05	14	10.38	14	21.03	15	3.44	Peruvian	Peruvian Line	360.0	44.7	17.0	Cristobal	Buenaventura	General	371	4,514	2,386
Orita	14	7.37	14	13.25	14	22.00	15	6.58	British	Pacific Steam Navigation Co	485.0	58.2	24.0	Liverpool	Valparaiso	General	3,918	9,936	6,561
Stephen R. Jones	14	11.25	14	13.30	14	22.20	14	23.40	American	Crowell & Thurlow	354.2	49.0	25.9	New York	Seattle	Steel, sugar, gen.	5,700	4,627	3,277
F. H. Hillman	14	20.47	15	6.35	15	14.16	15	15.16	American	Standard Oil Co	500.0	68.2	25.0	Port Arthur	San Francisco	Ballast	.....	11,225	7,913
Cuba	14	17.30	15	7.35	15	15.21	15	16.08	American	Cuba Steamship Co., Inc	299.5	40.0	18.2	Jacksonville	San Francisco	Ballast	.....	3,385	2,075
Sciota [1]	2	14.05	15	7.45	15	15.10	.....	.....	American	U. S. Navy	155.0	30.0	.....	Cristobal	Balboa	.....	.....	.....	.....
J. N. Pew	15	0.31	15	7.47	15	16.16	15	20.08	American	Sun Steamship Co	480.5	66.0	19.6	Philadelphia	Los Angeles	Ballast	.....	9,494	6,612
American	15	1.00	15	8.50	15	17.10	15	18.20	American	American-Hawaiian Line	406.8	51.1	27.0	Philadelphia	San Francisco	General	7,732	5,918	4,113
Conia	15	6.35	15	9.30	15	17.53	15	22.10	British	Anglo-Saxon Petroleum Co	400.0	52.4	24.0	London	Wilmington	Creosote	7,000	6,037	4,148
Athenic	15	6.28	15	10.35	15	18.58	16	1.48	British	White Star Line	500.0	63.0	26.0	London	Auckland	General	3,155	12,896	9,571
Gen. O. H. Ernst	14	0.48	15	11.22	15	19.50	15	20.48	American	Panama Railroad Steamship Line	356.4	45.3	19.8	New York	Guayaquil	General	1,947	4,503	2,764
Florence Luckenbach	15	12.50	15	13.15	15	20.21	15	21.45	American	Luckenbach Line	401.8	52.0	26.0	New Orleans	Los Angeles	General	7,600	6,002	4,621
Montana	15	20.00	16	6.37	16	14.30	16	21.10	American	Atlantic Transport Co	419.5	56.6	27.0	Philadelphia	Los Angeles	General	7,469	8,696	6,315
Arabia [2]	16	6.25	16	6.25	16	17.42	17	15.51	Panaman	San Blas Trading Co	115.1	26.1	10.0	Colon	Corinto	Ballast	.....	123	69
Resolute	16	6.57	16	7.45	16	15.55	17	1.00	Panaman	United American Line	596.0	72.3	27.0	New York	San Francisco	Passengers	.....	21,082	13,028
Gymeric	15	15.47	16	8.00	16	17.41	16	19.00	British	Andrew Weir & Co	420.3	54.6	20.0	London	San Francisco	Ballast	.....	6,501	4,459
Chester Sun	15	22.21	16	8.50	16	18.40	17	4.45	American	Sun Steamship Co	429.3	59.2	17.0	Philadelphia	Los Angeles	Ballast	.....	7,684	5,299
Commercial Traveler	16	16.16	16	9.32	16	19.34	17	5.50	American	Moore & McCormack Co	380.3	53.1	19.2	New York	Seattle	General	3,906	5,657	4,247
Romeo	16	8.37	16	10.28	16	20.55	17	21.23	British	Ellerman Lines, Ltd	400.0	52.0	25.6	New York	Adelaide	General, oil	5,784	6,185	4,554
Cayuca 2072	15	.....	16	.....	16	12.32	.....	.....	Panaman	A. Sardie	.....	.....	.....	Cristobal	Gatun	.....	.....	3	3
Sagadahoc	16	17.45	17	6.25	17	13.51	18	13.20	American	Argonaut Steamship Line	420.0	54.0	26.0	New York	San Francisco	General, steel	8,900	7,340	5,342
Bogota	16	10.25	17	7.21	17	14.46	17	15.49	British	Pacific Steam Navigation Co	400.0	52.0	22.0	Hull	Valparaiso	General	5,369	5,733	4,015
Tuscan Prince	16	23.50	17	8.15	17	17.23	17	18.35	British	Prince Line, Ltd	420.0	54.1	24.6	Middlesboro	Vancouver	General	6,040½	6,706	5,099
Kumoric	17	7.24	17	9.05	17	19.30	17	21.09	British	Andrew Weir & Co	460.0	55.1	25.0	New York	Chemulpu	General	8,000	8,236	6,256
Santa Barbara	17	9.30	17	10.35	17	20.11	17	21.09	American	Grace Line	404.6	54.0	15.0	New Orleans	Iquique	Ballast	.....	6,789	4,746
Eastwood	17	13.15	17	13.20	17	21.06	17	24.00	British	MacBerth-Blackwood & Laurie	340.0	48.0	14.0	Norfolk	Iquique	Ballast	.....	4,090	3,017
Santa Teresa	17	15.00	18	6.20	18	14.40	18	16.05	American	Grace Line	360.2	51.6	23.0	New York	Talcahuano	General	22,26	5,726	4,086
Agwilake	17	17.45	18	7.4.	18	15.53	18	16.55	American	Atl. Gulf & W. I. S. S. Co	468.3	62.7	18.0	Philadelphia	Los Angeles	Ballast	.....	10,108	7,483

[1] Tug. [2] Motor schooner.

Pakeha	17	20.47	18	8.15	18	16.50	18	17.55	British	Shaw Savill & Albion	477.5	63.1	27.0	Glasgow	Auckland	General	6,617	10,995	8,173
Dakotan	18	3.26	18	9.15	18	17.55	18	19.00	American	American-Hawaiian Line	407.7	53.7	24.0	New York	Los Angeles	General	6,000	7,156	5,058
Drielle	17	20.03	19	6.32	19	13.40	19	14.34	Dutch	Royal Netherlands W. I. Mail	402.0	58.0	20.0	Antwerp	Guayaquil	General	3,264	7,322	5,254
Arna	18	22.58	19	7.15	19	14.48	19	15.54	Norwegian	S. M. Kuhnle & Son	410.0	54.0	15.0	Newport News	Iquique	Ballast	.....	6,258	4,744
Arcturus	19	0.03	19	8.15	19	15.33	19	16.30	German	Argo Line	370.0	51.0	18.0	Bremen	Corral	General	2,157	4,899	3,704
Willsolo	19	7.35	19	8.50	19	16.48	19	17.55	American	Williams Steamship Line	434.3	57.7	26.0	Philadelphia	Seattle	General	5,980	7,983	5,882
James B. Duke	19	8.00	19	9.55	19	17.28	19	16.30	American	Garland Line	385.0	51.2	17.0	New York	Gray's Harbor	General	1,064½	6,242	4,471
Steel Trader	18	17.42	19	10.25	19	18.20	19	19.20	American	U. S. Steel Products Co	424.0	56.0	26.2	New York	San Diego	General	8,300	7,611	5,450
Bethore	19	9.55	19	11.03	19	19.25	19	20.52	American	Ore Steamship Co	550.3	72.2	26.0	New York	Cruz Grande	Ballast	.....	15,476	11,102
Lehigh	19	4.46	19	11.48	19	20.10	19	21.17	American	N. Atl. & West. S. S. Co. (S. B.)	390.0	54.2	20.1	Portland	Seattle	General	2,817	6,142	4,276
Dramatist	19	11.31	19	12.00	19	21.30	19	23.25	British	Harrison Line	410.0	52.3	24.6	Liverpool	Vancouver	General	5,045	6,202	4,154
Diadem	19	12.30	19	13.02	19	22.00	19	23.35	British	Hall Brothers	390.0	54.0	15.0	New Orleans	Mejillones	Ballast	.....	5,918	4,142
Bethelridge	19	19.03	20	6.23	20	16.41	20	17.40	American	Walke & Daley (S.B.)	431.0	59.0	20.0	Mobile	Los Angeles	Ballast	.....	8,099	5,426
Argonne[3]	18	19.57	20	7.45	20	17.31	21	13.30	American	U. S. Navy	448.0	58.0	22.0	New York	San Francisco	General	378	5,878	43,35
Alvarado	15	19.32	20	8.05	20	18.28	20	21.40	British	MacAndrews & Co	303.0	43.0	16.4	New York	Guayaquil	General	293	2,844	1,748
Cuba	8	19.10	20	8.53	20	18.31	20	23.50	American	Pacific Mail Steamship Co	307.8	42.3	19.3	Cristobal	San Francisco	General	.....	3,429	2,206
Nevadan	20	9.15	20	10.23	20	19.22	20	20.37	American	American-Hawaiian Line	368.8	55.2	23.6	Baltimore	Los Angeles	General	6,071	5,671	3,627
George Washington[4]	20	2.32	20	12.11	20	20.05	21	18.00	Norwegian	Peter Olsen	425.5	55.3	21.6	Kristiansand	San Francisco	General	5,977	7,505	5,627
Andrea F. Luckenbach	20	11.26	20	12.34	20	21.31	21	1.20	American	Luckenbach Line	496.0	68.2	25.6	Philadelphia	Los Angeles	General	9,100	11,487	8,762

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Chancellor	13	15.40	14	7.10	14	14.10	14	14.10	British	Harrison Line	384.0	52.0	23.2	Seattle	London	General, lumber	6,200	5,377	3,800
Logician	13	19.24	14	8.03	14	15.55	14	16.40	British	Harrison Line	399.5	47.0	25.3	Vancouver	Liverpool	General	5,965	5,124	3,697
Birmingham City	13	20.30	14	8.40	14	17.35	14	18.50	American	Isthmian Steamship Lines	395.5	55.0	26.6	Portland	London	Wheat	6,995	6,841	4,686
Chile Maru	13	20.14	14	9.39	14	17.30	14	18.00	Japanese	Kabushiki Kisen Kaisha	385.0	58.0	26.0	Vancouver	Europe	Wheat	7,456	5,923	4,409
Eastern Planet	14	11.00	14	11.25	14	18.40	14	23.45	American	U. S. & Australia Line	384.8	51.2	17.6	Melbourne	New York	General	220	6,235	4,480
Katuna	13	16.10	14	12.13	14	20.05	15	0.15	British	Ellerman & Bucknell	400.0	52.0	26.6	San Pedro	New York	General	7,331	6,025	4,392
Samuel Q. Brown	14	1.37	14	12.42	14	20.30	14	20.25	American	Tidewater Oil Co	424.4	58.2	26.1	San Pedro	New York	Oil	10,000	7,333	5,246
Acme	14	14.50	15	6.59	15	15.03	15	15.03	American	Standard Transport Co	435.0	56.0	27.3	Manila	New York	Cocoanut oil	6,630	7,405	5,166
Wiegand	14	16.30	15	7.05	15	16.07	15	17.40	German	Roland Line	393.0	54.0	23.6	Talcahuano	Hamburg	General	6,300	6,573	4,629
Viborg	14	23.00	15	8.10	15	17.01	15	18.05	Danish	C. K. Hansen	283.4	42.1	.....	Iquique	Denmark	Nitrate	3,182	2,578	1,795
O-13[5]	.....	.....	15	9.20	15	16.10	....	.....	American	U. S. Navy	175.0	16.4	.....	Balboa	Cristobal	.....	.....	.....	.....
Balboa	15	8.45	15	10.10	15	17.20	16	18.10	Colombian	Cia. Costanera Colombiana	170.0	29.1	14.6	Tumaco	Pto. Colombia	General	37	737	335
Ooma	15	16.15	16	6.54	16	14.55	16	16.10	British	Wm. Crosby	358.0	49.2	20.6	Tremantle	New York	Wool	3,000	4,796	3,512
Lancaster	15	20.00	16	7.56	16	15.41	16	15.41	American	Norton Lilly & Co	434.3	57.7	25.0	Everett	Boston	General	7,460	7,943	5,872
Devolente	15	22.02	16	8.41	16	17.05	16	17.05	American	Walter & Dally	435.0	56.0	26.8	San Pedro	New York	Oil	9,344	7,613	5,312
Herakles	16	9.30	16	10.09	16	18.40	16	20.05	Norwegian	Dupont	389.8	54.1	24.9	Valparaiso	Norfolk[6]	Nitrate	8,000	5,681	4,220
Oregonian	16	10.00	16	10.54	16	20.04	16	21.40	American	United American Lines	406.8	51.1	26.0	Tacoma	Philadelphia	General	5,300	5,959	4,203
Alkmaar	16	13.45	16	14.30	16	23.01	17	12.18	Dutch	Royal Dutch West India Mail	447.0	63.0	27.6	Valparaiso	Amsterdam	General	10,417	9,505	6,644
Sciota	.....	.....	17	7.25	17	13.15	....	.....	American	U. S. Navy	155.0	30.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Munindies	14	19.00	17	12.35	17	19.22	17	19.22	American	Munson Line	370.0	53.0	23.3	Coos Bay	New York	General	5,600	5,527	4,099
Cardita	17	9.30	17	13.57	17	21.10	17	22.20	British	Anglo-Saxon Petroleum Co	399.5	52.0	25.7	San Pedro	Lisbon	Oil	7,280	6,023	4,111
Brush	17	12.30	17	14.35	17	23.00	18	16.45	American	Nor. Atl. & Western S. S. Co	390.0	54.2	24.0	Seattle	Portland	General	5,172	6,209	4,317
Carolyn	17	9.30	18	7.43	18	14.50	18	21.25	American	A. Bull Steamship Co	313.6	46.1	20.0	Gray's Harbor	New York	Lumber	2,259	3,644	2,566
Henderson	17	1.30	18	8.13	18	15.31	18	16.31	American	U. S. Navy	483.10	51.10	21.0	San Francisco	Norfolk	Navy Stores	14	.....	.....
Amur Maru	17	23.50	18	8.52	18	17.12	18	17.12	Japanese	Osaka Shosen Kaisha	425.0	56.0	24.5	Otaku	New York	General	7,072	7,901	5,629

[3] Transport. [4] Motor ship. [5] Submarine. [6] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
China Maru	18	8.15	18	9.44	18	18.35	18	20.20	Japanese	Kabushiki Kisen Kaisha	385.1	51.0	26 0	Vancouver	Norfolk	Wheat	7,535	5,924	4,395
Cedar Branch	18	10.50	18	11.32	18	19.22	18	19.22	British	F. W. Ritson	380.5	51.0	22.6	Mejillones	London	Nitrate	5,287	4,927	3,597
Ramapo	17	12.30	19	7.05	19	15.55	22	7.35	American	U. S. Navy	461.6	60.0	27.0	Los Angeles	Port Arthur				
Northern Star	18	15.00	19	7.55	19	16.37	19	16.37	American	United American Lines, Inc.	386.8	52.2	21.0	Bellingham	Philadelphia	General	5,462	5,682	4,086
Salvador	19	4.55	19	9.10	19	17.33			British	Pacific Steam Navigation Co.	215.0	33.5	16.3	Champerico	Cristobal	General	1,120	1,270	735
Manavi	19	6.12	19	9.20	19	17.44			British	Pacific Steam Navigation Co.	216.0	35.1	11.6	Guayaquil	Cristobal	General	216	1,357	884
City of Victoria	19	15.30	20	7.10	20	14.05	20	14.05	British	British-Canadian Steamship Co.	411.5	51.1	24.0	Vancouver	London	Wheat	6,035	6,612	4,998
Carolinian	19	18.30	20	8.29	20	16.08	20	17.05	American	Garland Steamship Co.	359.8	50.2	23.6	Seattle	New York	Lumber	6,000	4,642	3,510
Robert Luckenbach	19	19.30	20	8.33	20	16.55	20	16.55	American	Luckenbach Line	445.0	50.0	24.0	Portland	New York	General	7,900	8,617	6,297
Grangepark	19	21.00	20	8.57	20	17.31	20	20.20	American	J. J. Denholm	400.0	52.3		Junin	Europe	Nitrate	7,350	5,710	4,022
Harry Luckenbach	20	4.00	20	9.58	20	19.10	20	19.10	American	Luckenbach Line	448.9	60.2	25.0	Portland	Boston	General	2,315	9,282	6,853
Lena Luckenbach	20	7.25	20	10.15	20	20.07	20	20.07	American	Luckenbach Line	425.0	53.8	22.6	Portland	Mobile	General	3,512	7,217	5,295
Patuxent			20	8.40	20	19.0	20	18.58	American	U. S. Navy	156.0	24.0		Balboa	Cristobal				

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
January 14	Atenas	United Fruit Co.	New Orleans via Habana.
January 15	Amassia	Hamburg-American Line	Hamburg via wayports.
January 16	San Gil	United Fruit Co.	Boston via Habana.
January 17	Berlin	T. Nielsen	New Orleans via wayports.
January 17	Coppename	United Fruit Co.	New Orleans via Habana.
January 17	Sixaola	United Fruit Co.	New York via Kingston.
January 18	Atenas	United Fruit Co.	Bocas del Toro.
January 18	Puerto Rico	French Line	St. Nazaire and wayports.
January 18	Antillian	Leyland Line	Liverpool via wayports.
January 18	Metapan	United Fruit Co.	Colombian ports.
January 19	Pastores	United Fruit Co.	New York via wayports.
January 20	Camito	Elders & Fyffes, Ltd.	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
January 15	Atenas	United Fruit Co.	Bocas del Toro.
January 16	Amassia	Hamburg-American Line	Port Limon.
January 17	San Gil	United Fruit Co.	Boston via Port Limon.
January 17	Berlin	T. Nielsen	New Orleans.
January 18	Coppename	United Fruit Co.	New Orleans via wayports.
January 18	Sixaola	United Fruit Co.	Colombian ports.
January 18	Atenas	United Fruit Co.	New Orleans.
January 18	Metapan	United Fruit Co.	New York via Kingston.
January 19	Puerto Rico	French Line	St. Nazaire and wayports.
January 20	Pastores	United Fruit Co.	New York via wayports.
January 20	Camito	Elders & Fyffes, Ltd.	Kingston.
January 20	Antillian	Leyland Line	New Orleans.

PORT OF BALBOA.

January 15	Memnon	General Steamship Corp.	Gray's Harbor.	January 15	Memnon	General Steamship Corp.	Valparaiso.
January 15	Darien	Obarrio & Co.	Las Pamas.	January 19	Darien	Obarrio & Co.	Sea.
January 18	Lady Sybil	International Petroleum Co.	Talara.				

* Other than ships passing through the Canal.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, December, 1922.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.					Far East.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Canada.	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Far East.	New Zealand.	Australia.	Australasia.[2]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																							
United States—																							
North Atlantic ports	8,340	1,792	1,019	5,910	6,858	23,919	206,912	3,538	799	.....	211,249	26,050	20,240	2,424	7,783	56,497	10,114	20,135	3,320	33,569	5,039	330,273	58.9
South Atlantic ports	2,161	.....	.....	.....	.....	2,161	2,788	.....	.....	4,975	7,763	1,068	1,656	.....	949	3,673	210	210	.....	420	.....	14,017	2.5
Gulf ports	682	105	303	480	.....	1,570	39,821	.....	.....	.....	39,821	22,830	5,677	389	4,200	33,096	.....	10,774	.....	10,774	.....	85,261	15.2
Total, United States	11,183	1,897	1,322	6,390	6,858	27,650	249,521	3,538	799	4,975	258,833	49,948	27,573	2,813	12,932	93,266	10,324	31,119	3,320	44,763	5,039	429,551	76.6
East coast of Mexico	9,443	.....	.....	.....	.....	9,443	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,443	1.7
Cristobal, C. Z.[2]	510	68	35	20	2,863	3,496	154	.....	3,248	.....	3,402	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,898	1.2
West Indies	.....	.....	.....	.....	.....	.....	6,000	.....	.....	.....	6,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,000	1.1
East coast of Canada	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,877	3,908	600	9,385	.....	9,385	1.7
Total, North America	21,136	1,965	1,357	6,410	9,721	40,589	255,675	3,538	4,047	4,975	268,235	49,948	27,573	2,813	12,932	93,266	15,201	35,027	3,920	54,148	5,039	461,277	82.3
Europe:																							
Belgium	615	.....	425	354	.....	1,394	7,558	1,070	.....	.....	8,628	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,022	1.8
British Isles	6,376	.....	1,704	11,127	.....	19,207	9,089	2,813	.....	.....	11,902	.....	.....	.....	.....	.....	23,165	1,362	.....	24,527	.....	55,636	10.0
France	1,373	.....	65	347	.....	1,785	25	.....	.....	.....	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,810	0.3
Germany	5,352	.....	2,122	1,225	.....	8,699	1,303	.....	1,634	.....	2,937	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,636	2.1
Holland	435	.....	234	232	.....	901	128	738	.....	.....	866	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,767	0.3
Italy	526	.....	.....	176	254	956	322	.....	.....	.....	322	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,278	0.2
Norway and Sweden	209	.....	.....	209	.....	418	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	418	0.1
Spain	120	.....	20	60	.....	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	.....
Europe[2]	2,466	.....	215	869	3,500	7,050	497	.....	.....	.....	497	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,547	1.3
Total, Europe	17,472	.....	4,785	14,599	3,754	40,610	18,922	4,621	1,634	.....	25,177	.....	.....	.....	.....	.....	23,165	1,362	.....	24,527	.....	90,314	16.1
East coast of South America	391	1,097	.....	.....	.....	1,488	7,001	.....	.....	.....	7,001	338	.....	.....	.....	338	.....	.....	.....	.....	.....	8,827	1.6
Grand totals	38,999	3,062	6,142	21,009	13,475	82,687	281,598	8,159	5,681	4,975	300,413	50,286	27,573	2,813	12,932	93,604	38,366	36,389	3,920	78,765	5,039	560,418	100.0
Per cent of total cargo:																							
December, 1922	7.0	0.5	1.1	3.7	2.4	14.7	50.2	1.5	1.0	0.9	53.6	9.0	4.9	0.5	2.3	16.7	6.9	6.5	0.7	14.1	0.9	100.0	.....
November, 1922	9.9	0.4	1.1	2.8	2.7	16.8	43.1	2.0	0.8	0.7	48.0	9.4	9.3	1.1	0.8	20.6	7.7	6.0	.....	13.7	0.9	.....	.....
December, 1921	5.2	0.3	0.5	2.3	3.8	12.1	24.2	1.4	1.0	5.0	32.2	23.9	5.7	1.3	9.8	40.7	5.7	2.0	5.2	12.9	2.1	.....	.....

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, December, 1922.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. East coast of Canada.	North America. West Indies.	North America. Cristobal, C. Z.[2]	North America. Total, North America.	Europe. Belgium	Europe. British Isles	Europe. Denmark.	Europe. France.	Europe. Germany.	Europe. Holland.	Europe. Italy.	Europe. Norway and Sweden.	Europe. Spain and Portugal.	Europe. Europe.[2]	Europe. Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																						
Chile	95,698	15,922	30,454	142,074	.....	.....	27	142,101	1,830	29,932	.....	8,397	4,950	110	2,899	.....	2,890	52,747	103,746	.....	245,847	25.2
Colombia	243	.....	.....	243	.....	.....	1,008	1,251	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,251	0.1
Ecuador	3,219	.....	.....	3,219	.....	.....	3,781	7,000	.....	.....	.....	314	301	394	438	.....	312	.....	1,759	.....	8,759	0.9
Peru	25,274	.....	.....	25,274	.....	8,199	5,004	38,468	1,608	17,681	.....	6,513	501	.....	14	.....	.....	.....	26,317	.....	64,785	6.7
West coast of South America[1]	1,871	.....	.....	1,871	.....	.....	661	2,532	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,532	0.3
Total, South America	126,305	15,922	30,454	172,681	.....	8,199	10,481	191,352	3,438	47,613	.....	15,224	5,752	504	3,342	.....	3,202	52,747	131,822	.....	323,174	33.2
North America:																						
West coast of United States	330,996	12,207	30,984	374,187	.....	538	97	374,822	.....	60,522	170	1,369	641	1,987	.....	37	6,903	17,700	90,625	.....	465,087	47.7
West coast of Canada	24,600	.....	.....	24,600	.....	.....	.....	24,600	.....	48,441	.....	.....	2,550	8,407	.....	.....	.....	14,546	73,944	.....	98,544	10.1
West coast of Central America	402	.....	.....	402	.....	.....	1,876	2,278	.....	.....	.....	.....	.....	.....	.....	33	.....	.....	33	.....	2,311	0.2
West coast of North America[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,670	.....	.....	.....	.....	.....	.....	.....	.....	6,670	.....	6,670	0.7
Total, North America	355,998	12,207	30,984	399,189	.....	538	1,973	401,700	.....	115,633	170	1,369	3,191	10,394	.....	1,006	6,903	32,246	170,912	.....	572,612	58.7
Asia:																						
China	14,345	.....	376	14,721	.....	13,011	521	28,253	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	29,253	3.0
Japan	927	.....	.....	927	.....	.....	.....	927	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	927	0.1
Philippines	8,030	.....	2,475	10,505	.....	.....	.....	10,505	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,505	1.1
Far East[1]	8,855	.....	.....	8,855	.....	.....	.....	8,855	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,855	0.9
Total, Asia	32,157	.....	2,851	35,008	.....	13,011	521	48,540	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	49,540	5.1
Australasia:																						
Australia	620	.....	.....	620	27	.....	.....	647	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	100	.....	747	0.1
New Zealand	803	.....	.....	803	.....	.....	.....	803	.....	6,191	.....	.....	.....	.....	.....	.....	.....	.....	6,191	.....	6,994	0.7
Australasia[1]	920	5,800	.....	6,720	.....	.....	.....	6,720	.....	5,630	.....	4,700	4,567	.....	.....	.....	.....	.....	14,897	.....	21,617	2.2
Total, Australasia	2,343	5,800	.....	8,143	27	.....	.....	8,170	.....	11,921	.....	4,700	4,567	.....	.....	.....	.....	.....	21,188	.....	29,358	3.0
Grand totals	516,803	33,929	64,289	615,021	27	21,739	12,975	649,762	3,438	175,167	170	21,293	13,510	10,898	3,342	1,006	10,105	84,993	323,922	1,000	974,684	100.0
Per cent of total cargo:																						
December, 1922	53.1	3.5	6.6	63.2	.....	2.2	1.3	66.7	0.4	18.0	.....	2.2	1.3	1.1	0.3	0.1	1.1	8.7	33.2	0.1	100.0	.....
November, 1922	43.8	5.9	4.9	54.6	.....	2.0	0.9	57.7	0.9	16.9	0.1	2.0	1.4	1.5	3.2	0.9	2.4	11.0	40.3	0.6	.....	.....
December, 1921	32.3	4.8	2.0	39.1	0.1	1.0	2.7	43.5	0.9	27.1	0.8	4.6	1.6	2.0	4.1	3.1	.....	12.3	56.5	.....	.....	.....

[1] General cargo not routed so as to allow segregation between definite ports.

[2] Includes both local and transfer cargo.

Motorship Traffic Through the Canal in 1922.

The number of motorships making the transit of the Panama Canal in the calendar year 1922 was 161. Of these, 82 went from the Atlantic to the Pacific and 79 from the Pacific to the Atlantic.

As compared with the total traffic (2,997 vessels of 12,992,573 net tons, Panama Canal measurement, carrying 13,710,556 tons of cargo), the motorships comprised 5.3 per cent of the total number of vessels, 4.3 per cent of the net tonnage, and carried 5.1 per cent of the total cargo transiting the Canal during the past year.

Motor schooners are included as motorships. One motor schooner, the *Laura C. Hall* (British) passed through the Canal 38 times during the year, making 19 transits in each direction.

Traffic between Europe and the west coast of North and South America is particularly attractive to motor ships, and the number engaged in this trade is relatively much higher than over any of the other great trade routes.

By nationality of vessels, the motorship traffic was made up as follows:

Nationality.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Net tonnage.	Tons of cargo.	No. of ships.	Net tonnage.	Tons of cargo.
British	29	59,898	65,823	29	55,250	83,321
United States	15	63,223	63,677	10	40,864	65,883
Danish	8	38,053	32,527	13	65,125	95,667
Norwegian	9	36,910	48,782	9	38,777	61,569
Italian	5	20,367	6,262	3	11,770	19,634
Swedish	8	37,617	44,848	9	41,882	60,334
Dutch	2	15,102	14,661	2	15,102	19,126
German	2	8,050	9,772	.....	.....	.....
French	2	2,145	1,228	1	854	1,087
Spanish	1	2,957	.....	1	2,957	6,000
Panaman	.....	.....	.....	2	121	.....
Costa Rican	1	45	6	.....	.....	.....
Totals	82	284,367	287,586	79	272,702	412,621

The following table summarizes the traffic by principal lines, omitting the motor schooner *Laura C. Hall.* It shows the lines making 2 or more transits with motorships:

Line.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Net tonnage.	Cargo tonnage.	No. of ships.	Net tonnage.	Cargo tonnage.
East Asiatic Co.	7	35,887	32,527	11	60,793	89,299
Pacific Steam Navigation Co.	6	29,024	43,083	8	38,692	63,362
Johnson Line	6	27,101	27,673	8	36,760	52,504
Societa Nazionale de Navigazione	5	20,367	6,262	3	11,770	19,634
Peter Olsen	4	19,026	22,846	5	22,912	37,709
American-Hawaiian Line	4	24,080	27,814	3	18,060	27,600
Alaska Steamship Co.	4	13,524	16,098	3	10,143	14,352
Royal Mail Steam Packet Co.	3	22,785	18,425	2	15,190	19,050
Swedish Transatlantic Steamship Co.	2	10,506	17,175	1	5,122	7,830
Ore Steamship Co.	2	9,658	.....	2	9,658	21,200
United States Shipping Board, (Barber Line)	2	12,452	18,185	.....	.....	.....
Holland-American Line	2	15,102	14,661	2	15,102	19,126
Kosmos Line	2	8,050	9,772	.....	.....	.....
Sociedad Commercial de Oriente	1	2,957	.....	1	2,957	6,000

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 22, 1923.

The Master of the German steamship *Amassia* reports:

"At 6 p. m., January 2, 1923, passed Cape Viejo Francis, Haiti, lat. 19° 41′ N., long. 69° 55′ W., within 2½ miles but saw no light. Just before dark the lighthouse was visible.

also

"At 5 a. m., January 3, 1923, passed Cape Engano, Haiti, lat. 18° 37′ N. and long. 68° 19′ W. Light was not burning."

M. L. WALKER,
Acting Governor.

Tank Ships Through the Panama Canal During Calendar Year 1922.

Tanker tonnage transiting the Canal showed a continued growth throughout the year, more particularly marked during the closing months owing to the decline in the production of the Mexican oil fields and the subsequent routing of many tank ships through the Canal to Californian ports.

During the year 1922 the aggregate Panama Canal net tonnage of tank ships transiting the Canal totaled 1,557,931 tons, and represented approximately 12 per cent of the total Panama Canal net tonnage of all commercial vessels passing through the Canal. In cargo tonnage, the total carried in tank ships aggregated 1,423,695 long tons, and represented 10.4 per cent of all cargo passing through the Canal during the calendar year.

Of the total Panama Canal net tonnage of tank ships 857,310 tons, or approximately 55 per cent, were laden; and 700,621 tons, or 45 per cent, passed through the Canal in ballast.

The bulk of the cargoes, of course, were made up of crude and refined mineral oils, but several tankers returning from the Far East brought cargoes of coconut oil, while other shipments included iron and steel, pipes, molasses in bulk, general cargo, etc. The *G. Harrison Smith*, a large tankship, was employed in the transportation of iron ore from Chile to the East Coast of the United States during the latter half of the year.

The total shipments of crude and refined mineral oils eastbound through the Canal during 1922 totaled approximately 788,000 tons, practically all of which was carried in tankers. Reference to the table below will show that the aggregate cargo carried by eastbound tankers totaled 785,433 tons.

The aggregate shipments of mineral oil products through the Canal from the Atlantic to the Pacific totaled a little over 1,100,000 long tons. Of this total, slightly more than 400,000 tons were crude oil, and the remaining 700,000 tons was made up of various refined products. As the combined cargoes carried by westbound tank ships totaled 638,262 tons, it will be seen that general cargo vessels carried a large percentage of the refined oils in cases.

The following table, giving ballast and laden Panama Canal net tonnage of all tankers transiting the Canal during the year, by months, together with cargo tonnage, shows the marked decline in westbound cargo tonnage carried by tank ships during the year and the consistent increase in eastbound cargoes. During the early months of the year most of the ballast tanker tonnage passing through the Canal was routed from Pacific to Atlantic ports, while at the close of the year the condition was reversed:

NET TONNAGE AND CARGO CARRIED BY TANKERS TRANSITING THE CANAL IN 1922.

Month.	Atlantic to Pacific traffic.				Pacific to Atlantic traffic.			
	Panama Canal net tonnage.			Cargo tonnage.	Panama Canal net tonnage.			Cargo tonnage.
	Ballast.	Laden.	Total.		Ballast.	Laden.	Total.	
January	6,096	40,958	47,054	73,813	26,831	.....	26,831	.....
February	12,034	24,381	36,415	41,737	33,863	17,485	51,348	25,751
March	.....	22,550	22,550	39,582	34,969	21,692	56,661	39,329
April	8,703	34,744	43,447	53,019	8,333	13,069	21,402	12,672
May	19,160	62,670	81,830	108,600	17,411	22,846	40,257	41,789
June	34,226	32,650	66,876	56,476	21,613	26,915	48,528	48,740
July	26,780	36,879	63,659	57,505	15,542	46,050	61,592	68,991
August	33,688	36,849	70,537	62,815	21,264	20,539	41,803	37,106
September	52,991	23,777	76,768	33,901	7,911	56,375	64,286	89,642
October	77,626	39,970	117,596	53,558	4,382	60,787	65,169	110,075
November	101,673	25,313	126,986	36,731	25,008	75,124	100,132	127,300
December	92,597	16,258	108,855	20,525	17,920	99,429	117,349	184,038
Totals	465,574	396,999	862,573	638,262	235,047	460,311	695,358	785,433

In January, 1922, the aggregate Panama Canal net tonnage of tank ships transiting the Canal totaled 47,054 tons, and represented 8.7 per cent of the aggregate net tonnage of all vessels transiting the Canal. In December, 1922, the aggregate net tonnage totaled 226,204 tons, an increase over the month of January of 193 per cent, and represented 16.4 per cent of the total net tonnage transiting the Canal during that month.

The aggregate cargo tonnage carried in tankships transiting the Canal in January, 1922, totaled 73,815 long tons, and represented 9.1 per cent of the total cargo tonnage passing through the Canal that month. In December, 1922, the cargo tonnage carried in tank ships totaled 204,563 long tons, an increase of 177 per cent over January, and represented 13.3 per cent of the total December cargo tonnage through the Canal.

TANK SHIPS BY NATIONALITY.

Over 97 per cent of the total net tonnage of tankers transiting the Canal during the year was registered under 3 flags. Vessels of United States registry led, and made up 56.3 per cent of the total tanker tonnage; British vessels were second in number and comprised 36.6 per cent of the total tonnage; vessels of Norwegian registry made up 4.3 per cent of the net tonnage, while the remaining 2.7 per cent was made up by vessels of several nationalities.

The following table shows the laden and ballast tonnage, and the amount of cargo carried, by nationality of vessels:

Month.	Atlantic to Pacific traffic.				Pacific to Atlantic traffic.			
	Panama Canal net tonnage.			Cargo tonnage.	Panama Canal net tonnage.			Cargo tonnage.
	Ballast.	Laden.	Total.		Ballast.	Laden.	Total.	
United States	292,469	170,190	462,659	236,855	62,119	351,601	413,720	608,701
British	170,148	166,391	336,539	303,503	128,366	105,753	234,119	170,732
Norwegian	.....	33,985	33,985	59,821	33,985	.....	33,985	.....
All other	2,957	26,433	29,390	38,083	10,577	2,957	13,534	6,000
Totals	465,574	396,999	862,573	638,262	235,047	460,311	695,358	785,433

Of the total cargo tonnage, tankers of United States registry carried 59.4 per cent; tankers of British registry 33.3 per cent; of Norwegian registry, 4.2 per cent; and tankers of other nationality 3 per cent.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending January 20, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Huallaga	Peruvian Line		January 14		371
Kinderdijk	Holland-American Steamship Line		January 14		78
Indiana	French Line		January 14		83
Orita	Pacific Steam Navigation Co	January 14	January 14	75	(1)
Atenas	United Fruit Co	January 14	January 15	98	82
Gen. O. H. Ernst	Panama Railroad Steamship Line	January 14	January 15	117	9
Amassia	Hamburg-American Line	January 15	January 16	81	32
Balboa	Costanera Colombiana Co	January 15	January 16	465	(1)
Alvarado	Pacific Steam Navigation Co	January 15	January 20	39	570
Alkmaar	Royal Netherlands W. I. Mail	January 16	January 17	58	25
San Gil	United Fruit Co	January 16	January 17	4	22
Bogota	Pacific Steam Navigation Co	January 16	January 17	241	82
Berlin	N. O. & S. A. S. S. Line	January 17	January 17	65	77
Coppename	United Fruit Co	January 17	January 18	976	½
Sixaola	United Fruit Co	January 17	January 18	162	190
Brielle	Royal Netherlands W. I. Mail	January 17	January 19	225	4
Antillian	Leyland Line	January 18	January 19	491	602
Puerto Rico	French Line	January 18	January 19	88	147
Metapan	United Fruit Co	January 18	January 18	(2)	22
Atenas	United Fruit Co	January 18	January 18	(2)	93
Manavi	Pacific Steam Navigation Co	January 19		276	
Salvador	Pacific Steam Navigation Co	January 19		1,120	
Pastores	United Fruit Co	January 19	January 20	207	296
George Washington	P. Olsen	January 20	January 20	940	(1)
Camito	Elders & Fyffes, Ltd	January 20	January 20	10	(1)
Cuba	Pacific Mail Steamship Co		January 20		2,111

[1] No cargo laded. [2] No cargo discharged.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending January 20, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Pyro	U. S. Navy	January 14	January 16	9	
Darien	Henry Obarrio	January 16	January 19	140	126
Henderson	U. S. Navy	January 16	January 18	3	
Ramapo	U. S. Navy	January 17	January 18	8,743	
Lady Sybil	International Petroleum Co	January 18		67	
Salvador	Pacific Steam Navigation Co	January 19	January 19	9	
Manavi	Pacific Steam Navigation Co	January 19	January 19	1	

Official Circular.

Appointment.—Captain of the Port, Balboa.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 18, 1923.

To all concerned—Effective this date, Commander M. E. Manly, U. S. N. is appointed Captain of the Port, Balboa, C. Z., and member of the Board of Local Inspectors, *vice* Lieutenant-Commander S. L. Henderson, U. S. N., relieved from duty with The Panama Canal.

M. L. WALKER,
Acting Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., January 31, 1923. No. 25.

Largest Vessels To Have Transited Canal To Date.

Inquiries are frequently made regarding the vessel of greatest length, beam, draft, tonnage, etc., to have transited the Canal to date.

In an effort to answer these inquiries, and at a chance of leaving out one or more vessels larger is some respect than some here listed, two statements are shown below, the first listing warships only, and the second passenger and cargo ships. This segregation permits of easier comparison, since in regard to tonnage, warships are measured by the amount of water displaced, and passenger and cargo vessels on the cubic capacity of the ship, and tolls in each instance are levied accordingly:

WARSHIPS.

Name of vessel.	Length between perpendiculars.	Beam.	Draft at time of transit.	Displacement tonnage.	Tolls.	Date of transit.
Renown	795′	92′	31′ 8″	33,379	$16,689.50	Mar. 30, 1920.
Mississippi	600′	97′ 4½″	32′ 8″	32,000	[1] 16,000.00	July 26, 1919.
New Mexico	600′	97′ 4½″	32′ 8″	32,000	[1] 16,000.00	July 25, 1919.
Pennsylvania	600′	97′	29′ 10″	31,400	[1] 15,700.00	Jan. 19, 1921.
Arizona	600′	97′	29′ 10″	31,400	[1] 15,700.00	Jan. 19, 1921.
Almirante Latorre	625′	92′	34′	30,400	15,200.00	Jan. 12, 1921.

[1] Hypothetical; tolls not charged.

CARGO AND PASSENGER SHIPS.

Name of vessel.	Length between perpendiculars.	Beam.	Draft at time of transit.	Registered gross tonnage.	Panama Canal net tonnage.	Tolls.	Date of transit.
America	668′ 8″	74′ 4″	32′ 9″	22,622	16,959	$16,855.00	Feb. 6, 1920.
Empress of Australia	589′ 9″	75′ 2″	27′	21,861	14,150	10,188.00	July 1, 1922.
Minnesota	622′ 0″	73′ 5″	28′	20,602	15,777	16,371.25	Feb. 27, 1917.
Laconia	601′ 3″	73′ 6″	27′	19,680	16,037	13,237.50	Nov. 29, 1922.
Caramic	655′ 1″	69′ 4″	29′ 8″	18,481	13,607	14,527.50	Dec. 12, 1917.
Mount Vernon	685′ 4″	72′ 2″	33′ 6″	18,372	5,853	7,106.40	Oct. 29, 1919.
Resolute	588′ 5″	72′ 3″	27′	17,258	13,028	9,987.50	Jan. 16, 1923.
Empress of France	571′ 4″	72′ 4″	31′ 10″	18,357	11,968	11.263.75	Jan. 30, 1923.

From the above tables it will be seen that no one vessel transiting the Canal to date has exceeded all others in every particular. In length, the British crusier *Renown* exceeds by more than 100 feet the steamship *Mount Vernon*, which was second in length. In beam, the battleships *Mississippi* and *New Mexico* of the United States Navy exceed all others by a slight margin. In displacement tonnage, the *Renown* ranks first among war vessels, while in registered gross the *America* exceeds that of any other cargo or passenger ship through the Canal to date. The deepest draft recorded to date was that of the steamship *Heffron*, drawing 35 feet 2 inches of water at time of transit, on November 3, 1922.

In the amount of tolls paid, the steamship *America* ranks first and the British cruiser *Renown* second. Tolls and tonnage in the case of the 4 United States battleships should be considered as approximate only, since the vessels transited the Canal free and the tolls were computed at 50 cents per ton on their normal displacement tonnage.

CANAL WORK IN DECEMBER.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of December, 1922:

BALBOA HEIGHTS, C. Z., January 24, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering operations of the Panama Canal during the month of December, 1922. In it have been incorporated summaries of the record traffic through the Canal during the past calendar year.

TRAFFIC FOR CALENDAR YEAR 1922.

Commercial traffic through the Canal for the year ending December 31, 1922, exceeded that of any former 12 months' period since the opening of the Canal in number of vessels, tonnage, tons of cargo carried, and amount of tolls.

The increased traffic in 1922 over that of the preceding year is almost entirely due to the greatly increased traffic during the last 6 months of the calendar year as, with the single exception of cargo tonnage, the figures for traffic transiting the Canal during the first half of 1922 were less than the corresponding figures for either the first or last half of 1921.

Commercial traffic for the calendar year 1922 showed an increase over the preceding year of 8 per cent in the number of transits, 12 per cent in tolls, 14 per cent in net tonnage, and 28 per cent in cargo tonnage.

The following tabulation gives a ready comparison of the number of vessels, Panama Canal net tonnage, tolls, and tons of cargo passing through the Canal during the calendar years, 1921 and 1922, by months:

COMMERCIAL TRAFFIC THROUGH THE CANAL DURING THE CALENDAR YEARS 1921 AND 1922, BY MONTHS.

Month.	Number of vessels.		Panama Canal net tonnage.		Tolls.		Tons of cargo.	
	1921.	1922.	1921.	1922.	1921.	1922.	1921.	1922.
January	279	210	1,094,323	846,516	1,095,857.46	847,767.55	1,177,053	807,298
February	241	212	916,838	886,535	917,412.79	866,266.18	952,904	838,074
March	255	234	1,112,818	975,811	1,105,536.55	956,726.76	1,084,563	960,089
April	227	230	955,503	974,833	927,977.09	953,256.11	907,613	1,046,047
May	210	243	864,617	1,032,816	835,882.77	1,015,057.37	792,735	1,158,507
June	192	228	761,477	970,713	751,964.12	932,290.42	694,720	977,478
Total, first half year	1,404	1,357	5,705,576	5,687,224	5,634,630.78	5,571,364.39	5,609,588	5,787,493
July	206	251	810,613	1,127,871	804,503.11	1,094,127.42	708,982	1,211,100
August	236	257	965,276	1,084,133	955,380.78	1,055,336,75	839,273	1,165,950
September	221	240	925,137	1,070,410	892,001.54	1,020,064.55	754,894	1,138,188
October	255	294	1,069,554	1,310,392	1,047,935.62	1,255,508.00	985,775	1,445,863
November	222	294	942,411	1,337,280	923,048.70	1,264,436.54	855,440	1,426,860
December	239	304	1,017,244	1,375,263	1,003,598.27	1,312,570.12	953,053	1,535,102
Total second half year	1,379	1,640	5,730,235	7,305,349	5,626,468.02	7,002,043.38	5,097,417	7,923,063
Total for year	2,783	2,997	11,435,811	12,992,573	11,261,098.80	12,573,407.77	10,707,005	13,710,556

COMMERCIAL TRAFFIC BY CALENDAR YEARS, 1914 TO 1922.

The following statement is a summary of the traffic through the Canal by calendar years since its opening:

Calendar year.	Number of ships.	United States tonnage.	Panama Canal net tonnage.	Registered tonnage.		Tolls.	Tons of cargo.
				Gross.	Net.		
[2] 1914	350	(1)	1,284,293	1,789,721	(1)	$1,508,737.56	1,758,625
[3] 1915	1,154	(1)	3,902,592	(1)	(1)	4,297,467.11	4,893,422
[3] 1916	1,217	3,078,623	3,817,704	(1)	(1)	3,671,162.68	4,774,822
1917	1,960	5,116,001	6,217,054	(1)	(1)	6,107,696.63	7,443,610
1918	2,070	5,369,341	6,409,886	(1)	(1)	6,317,455.39	7,284,159
1919	2,133	5,828,118	6,943,087	7,719,306	4,919,189	6,973,095.30	7,477,945
1920	2,814	8,543,408	10,378,265	13,300,887	8,458,401	10,295,362.21	11,236,119
1921	2,783	9,303,687	11,435,811	14,451,830	9,225,519	11,261,098.80	10,707,005
1922	2,997	10,375,771	12,992,573	16,315,147	10,310,113	12,573,407.77	13,710,556
Totals	17,478	.....	63,381,265	.....	.....	$63,005,483.45	69,286,263

[1] Indicates tonnage figures are not available. [2] Canal opened to traffic August 15, 1914. [3] Canal opened to traffic for approximately 8½ months only; closed by slides from the middle of September, 1915, to the middle of April, 1916.

NUMBER OF VESSELS TRANSITING CANAL IN 1922.

The total number of vessels and craft of all kinds transiting the Canal during the calendar year 1922, by months, is shown in the following tabulation:

	Commercial.	Non-Noncommercial. [1]	Launches. [2]	Total.
January, 1922	210	22	6	238
February	212	12	5	229
March	234	15	4	253
April	230	14	9	253
May	243	18	6	267
June	228	24	4	256
July	251	14	2	267
August	257	25	8	290
September	240	18	11	269
October	294	5	20	319
November	294	21	5	320
December	304	21	3	328
Total for the year	2,997	209	83	3,289

[1] Principally U. S. Army and Navy vessels, but also includes government vessels of the Republic of Panama and Colombia. These vessels transited the Canal free of tolls.

[2] Launches and small miscellaneous nonseagoing craft, though paying tolls, are excluded from the statement of commercial traffic.

LOSS IN TOLLS DUE TO THE DUAL SYSTEM OF MEASUREMENT.

The loss in revenue, due to the dual system of measurement on which tolls are assessed, aggregated $2,603,833.83 for the year ending December 31, 1922. If, during the calendar year 1922, tolls had been assessed on the basis of Panama Canal measurement rules alone, the revenue from tolls would have been greater by the above amount, or an increase of approximately one-fifth.

The introduction of the United States measurement rules as a factor in the computation is equivalent to an irregular reduction in the tolls rate under which some vessels benefit more than others. The dual system of measurement is both cumbersome and onerous, but is necessary until such time as remedial legislation can be obtained.

In the following statement the loss in revenue due to the dual method of computing tolls, is shown for the calendar year 1922, by months:

	Atlantic to Pacific.	Pacific to Atlantic.	Totals.
January, 1922	$96,774.50	$61,153.33	$157,927.83
February	92,117.87	83,883.13	176,001.00
March	110,970.17	74,724.75	185,694.92
April	113,795.82	99,997.75	213,793.57
May	123,193.70	87,672.25	210,865.95
June	117,590.16	79,502.54	197,092.70
July	99,501.09	119,496.85	218,997.94
August	124,822.08	108,193.47	233,015.55
September	112,875.58	112,900.35	225,775.93
October	130,463.91	128,897.75	259,361.66
November	121,664.88	141,112.90	262,777.78
December	123,267.45	139,261.55	262,529.00
Totals	$1,367,037.21	$1,236,796.62	$2,603,833.83

CANAL TRAFFIC FOR DECEMBER.

The traffic which passed through the Canal during December, 1922, exceeded that of any other month since the opening of the Canal to traffic. New high records were established for number of vessels, tonnage, amount of tolls assessed, and tons of cargo carried. The following summary shows a comparison of the December traffic with the November traffic, the December, 1921, traffic, and which the average month for the calendar year of 1922:

	December, 1922.	November, 1922.	December, 1921.	Average month for calendar year 1922.
Number of vessels	304	294	239	250
United States equivalent tonnage	1,104,225	1,062,725	827,340	864,647
Panama Canal net tonnage	1,375,263	1,337,280	1,017,244	1,082,714
Registered gross tonnage	1,734,678	1,669,486	1,284,499	1,359.595
Registered net tonnage	1,091,432	1,044,833	820,431	959,176
Tolls	$1,312,570.12	$1,264,436.54	$1,003,598.27	$1,047,783.98
Tons of cargo carried	1,535,102	1,426,860	953,053	1,142,546

The total number of vessels and craft of all kinds transiting the Canal during the month of December, as compared with the preceding month and with December, 1921, was as follows:

	December, 1922.	November, 1922.	December, 1921.
Commercial vessels	304	294	239
Noncommercial vessels	21	21	35
Launches, etc. (under 10 tons measurement)	3	5	4
Totals	328	320	278

In addition to the foregoing, Panama Canal equipment, consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	3	4	7
Pedro Miguel	19	28	47
Miraflores	18	24	42

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

	December, 1922.	November, 1922.	December, 1921.
United States equivalent net tonnage	3,632	3,614	3,461
Panama Canal net tonnage	4,524	4,548	4,256
Registered gross tonnage	5,706	5,678	5,378
Registered net tonnage	3,590	3,554	3,432
Tolls	$4,317.66	$4,300.80	$4,199.15
Tons of cargo (including vessels in ballast)	5,049	4,853	3,987
Tons of cargo (laden vessels only)	5,859	5,595	4,412

UNITED STATES COASTWISE TRAFFIC.

There was a decided increase in traffic between United States ports during the month of December, 1922, as compared with the month of November, 1922; the coastwise traffic during the month was the greatest in the history of the Canal, and constituted 36 per cent of the Panama Canal net tonnage, 37 per cent of the tolls, and 41 per cent of the cargo tonnage, for the month.

The following tabulation shows the Panama Canal net tonnage, tolls, and tons of cargo carried by vessels engaged in the United States coastwise trade during the calendar year 1922:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1922.								
January	28	138,928	$141,404.35	119,413	20	108,921	$111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,662
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150
September	34	175,211	164,208.35	162,955	29	144,231	137,377.25	192,300
October	44	218,319	201,582.70	176,911	29	156,722	160,497.85	235,728
November	43	225,442	199,628.57	164,680	31	162,615	157,142.50	263,422
December	55	262,177	245,140.65	256,569	44	237,182	242,379.90	369,653
Totals	419	2,044,425	1,942,238.60	1,917,187	321	1,644,027	1,621,465.20	2,013,827

UNITED STATES SHIPPING BOARD VESSELS.

Fourteen vessels of the United States Shipping Board transited the Canal during the month of December, 1922. These vessels had an aggregate Panama Canal net tonnage of 71,562 tons; paid $66,241.78 in tolls and carried 67,700 tons of cargo. Seven of these vessels were engaged in the United States coastwise trade; 3 in trade

between the United States and the Far East; 2 between the United States and the west coast of South America; and 1 each between the United States and Australasia and the east coast of South America and the west coast of the United States.

The following is a statement of the United States Shipping Board vessels which have passed through the Canal during the calendar year 1922:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
January	6	34,546	$34,756.25	23,575	7	31,550	$30,646.95	28,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532
September	8	43,796	36,661.62	33,559	5	24,116	23,363.75	36,935
October	6	30,872	31,203.35	29,742	6	27,656	26,533.95	39,240
November	5	25,566	25,770.00	20,002	5	24,020	23,888.00	31,931
December	10	50,754	45,055.53	34,933	4	20,808	21,186.25	32,767
Totals, 1922	104	545,922	524,487.46	541,485	82	412,803	399,449.49	443,060

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the calendar year 1922, the figures representing the Panama Canal net tonnage:

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,225	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
September	369,756	170,003	4,382	17,271	21,004	582,416
October	433,864	196,618	14,170	19,665	48,135	712,452
November	449,080	174,504	13,035	17,692	40,652	694,963
December	519,455	164,772	4,885	9,426	19,339	717,877
Average month for calendar year 1922	376,645	156,886	18,561	18,159	29,016	599,267

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,197	51,872	586,041
April	145,819	121,973	121,594	81,436	49,856	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,805	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
September	257,780	122,215	99,828	76,203	26,390	582,416
October	281,857	194,282	106,467	82,250	47,596	712,452
November	276,301	167,963	98,280	73,004	79,415	694,963
December	318,830	187,428	80,515	70,461	60,643	717,877
Average month for calendar year 1922	219,061	140,823	114,338	76,657	48,388	599,267

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
September	244,463	143,762	32,903	27,451	39,415	487,994
October	287,606	201,071	20,232	8,022	81,009	597,940
November	244,902	237,497	43,148	22,547	94,223	642,317
December	280,465	217,805	33,133	26,301	99,682	657,386
Average month for calendar year 1922	203,194	148,196	30,964	35,148	65,945	483,447

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
January	115,392	168,337	26,831	16,489	5,703	332,752
February	168,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	10,851	472,271
September	165,132	263,987	10,868	21,782	26,225	487,994
October	246,239	278,764	9,346	15,667	47,924	597,940
November	254,212	333,867	15,223	18,389	20,626	642,317
December	217,861	397,120	17,920	15,894	8,591	657,386
Average month for calendar year 1922	177,048	253,455	17,727	18,693	16,524	483,447

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of December, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	23.0		5.0	
East coast of United States	56.6		37.9	
East coast of Mexico	1.0			73.3
Cristobal, C. Z.		15.0		48.1
West coast of United States	40.9		38.0	
West coast of South America	33.1		47.0	
Australasia		8.1		25.0
Far East		29.6	7.0	

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was $1,312,570.12. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from this source would have been increased by $262,529.00, distributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Belgian		$771.85	$771.85
British	$41,202.85	40,724.10	81,926.95
Chilean	1,777.25	1,554.65	3,331.90
Danish	241.37	850.40	1,091.77
Dutch	2,346.10	2,673.15	5,019.25
French	475.20	1,208.65	1,683.85
German	4,354.25	882.90	5,237.15
Italian	975.70	636.30	1,612.00
Japanese	2,300.45	2,650.25	4,950.70
Mexican	656.65		656.65
Norwegian	2,284.55	2,833.00	5,117.55
Panaman	[1] 41.40	858.90	817.50
Peruvian	3,306.80	4,965.50	8,272.30
Swedish		2,006.55	2,006.55
United States	63,387.68	76,645.35	140,033.03
Totals	123,267.45	139,261.55	262,529.00

[1] Gain.

Reference has been made to the difference of $2,603,833.83 resulting in the calendar year from the application of the dual system.

The additional tolls that would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$42,418.53	$53,323.85	$95,742.38
United States and foreign ports	18,537.25	15,851.80	34,389.05
United States and United States possessions	1,529.70	.....	1,529.70
United States and Canal Zone ports	902.20	246.60	1,148.80
Between foreign ports	.....	7,223.10	7,223.10
Totals	$63,387.68	$76,645.35	$140,033.03

Of the additional $262,529.00 revenue that would have been assessed by using exclusively the Panama Canal rules of measurement, $15,684.00 represents the sum that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in December, 1922, is shown in the following table, segregated by nationality of vessels; vessels in ballast are excluded:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Belgian	.....	1.89	1.89
British	.94	1.43	1.20
Chilean	.63	.03	.38
Danish	.79	1.86	1.57
Dutch	.93	1.66	1.27
French	25	1.59	1.10
German	.69	1.69	.87
Italian	.20	1.64	.83
Japanese	1 28	1.65	1.51
Norwegian	.84	1.20	1.05
Panaman	.....	1.78	1.78
Peruvian	.74	.72	.73
Swedish	.....	1.37	1.37
United States	1.15	1.60	1.39
Average ratio, December, 1922	1.03	1.53	1.30
Average ratio, November, 1922	.95	1.50	1.24
Average ratio, December, 1921	.89	.98	.95

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.98	1.55	1.25
United States and South America	.27	1.61	1.02
United States and Europe	.....	1.38	.78
United States and Far East	1.21	1.49	1.29
Europe and South America	.57	1.62	1.11
Europe and Australasia	.76	1.03	.87
Europe and Canada	.85	1.48	1.31
Cristobal, C. Z. and South America	.32	.58	.49
United States and Australasia	1.06	1.68	1.12

COMMODITY STATISTICS.

The following commodity statistics, compiled from cargo declarations and manifests submitted by ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 68 per cent of all cargo passing from the Atlantic to the Pacific, and 95 per cent of all cargo passing from Pacific to Atlantic ports, the remaining commodities being

listed as "general merchandise." A brief summary of the principal items is shown below; the figures represent tons of 2,240 pounds:

PRINCIPAL ITEMS OF CARGO, IN TONS.

Commodity.	December, 1922.	November, 1922.	December, 1921.
Atlantic to Pacific.			
Ammonia	3,458	2,312	11,592
Automobiles and accessories	5,589	2,462	1,635
Cement	7,136	6,976	10,809
Coal and coke	29,769	11,949	12,579
Cotton, raw	10,352	11,617	37,614
Glassware	1,327	1,163	1,416
Manufactured goods:			
Iron and steel	117,034	91,740	81,168
Railroad material	18,465	5,134	7,745
Machinery	11,437	10,673	6,586
Textiles	9,032	4,065	3,892
Other manufactured goods	6,440	3,603	5,897
Metals, various	18,785	14,519	22,187
Oils:			
Crude petroleum	9,703	20,841	48,272
Lubricating oil	9,001	8,691	415
Kerosene, gasoline	38,701	49,042	46,970
Vegetable and other oils	1,168	718	1,503
Paper	6,912	7,831	5,077
Sulphur	4,100	16,825	4,000
Sugar	302	3,350	3,585
Tobacco	3,926	4,263	3,086
Other and general merchandise	247,781	223,604	201,082
Totals	560,418	501,378	517,110
Pacific to Atlantic.			
Barley	23,669	50,676	21,781
Beans, peas, lentils, etc	7,051	7,189	5,351
Cacao	3,433	1,401	4,745
Canned goods:			
Fish	17,570	16,108	5,202
Fruit	41,411	32,442	15,982
Other and unclassified	6,975	8,983	1,660
Coffee	2,225	2,202	4,529
Copra	9,287	8,800	5,802
Cotton, raw	4,074	4,703	6,660
Flour	10,303	5,779	8,881
Fruit, dried	18,649	24,382	3,876
Fruit, fresh	10,935	5,745	1,630
Hemp	5,636	1,564	1,303
Ivory nuts	4,585	1,624	2,482
Lumber	113,077	85,676	42,610
Metals:			
Copper	23,037	25,013	9,060
Other, various	5,784	4,707	1,900
Nitrates	159,341	213,574	59,957
Oils:			
Crude petroleum and naphtha	158,855	95,985	4,723
Lubricating oil	.....	14,732	10,898
Benzine, kerosene, and gasoline	25,223	3,612	16,165
Vegetable and other oils	6,647	7,515	3,176
Ores:			
Iron	59,958	38,541	.....
Other, various	5,742	23,847	9,805
Rice	16,278	12,521	6,401
Skins and hides	3,326	3,097	2,704
Sugar	30,863	41,499	29,879
Tea	2,943	3,050	1,394
Wheat	92,613	83,073	35,217
Wool	3,256	6,233	5,555
Other and general merchandise	101,938	91,209	106,615
Totals	974,684	925,482	435,943

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of December, 1922, was published in THE PANAMA CANAL RECORD under date of January, 1923. The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo carried over the principal trade routes during the month of December, 1922, as compared with November, 1922, and with December, 1921:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	December, 1922.	November, 1922.	December, 1921.	December, 1922.	November, 1922.	December, 1921.
United States coastwise ports	55	43	20	44	31	23
United States and Far East	14	19	27	6	8	5
Europe and United States	7	8	15	10	14	12
United States and South America	25	17	10	23	25	10
Europe and South America	17	14	12	18	24	19
Cristobal and South America	5	6	9	8	7	9
Europe and Australasia	6	6	8	5	3	5
United States and Australasia	7	4	5	1	2	1
Europe and Canada	5	5	4	14	13	2
Mexico and United States	.....	.....	1	.....	1	2
Mexico and South America	1	3	2	4	3	1
United States and Canada	5	5	.....	4	4	1
Miscellaneous	14	18	22	6	11	14
Totals	161	148	135	143	146	104
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	262,177	225,442	104,152	237,182	162,615	116,482
United States and Far East	76,233	94,050	127,353	33,133	43,148	24,572
Europe and United States	31,540	38,246	63,732	41,690	69,603	62,655
United States and South America	95,944	69,259	38,745	101,330	101,309	33,707
Europe and South America	72,316	59,087	49,830	77,104	96,781	85,435
Cristobal and South America	6,392	13,964	10,947	12,860	14,036	11,759
Europe and Australasia	32,368	48,828	56,151	22,833	13,972	31,395
United States and Australasia	38,093	20,106	22,746	3,468	8,575	4,127
Europe and Canada	27,228	25,226	20,914	76,234	67,815	10,431
Mexico and United States	.....	.....	4,903	.....	1,504	13,033
Mexico and South America	4,885	13,035	10,362	17,920	13,719	5,051
United States and Canada	20,299	24,511	.....	19,083	18,220	5,624
Miscellaneous	50,402	63,209	65,834	14,549	31,020	37,304
Totals	717,877	694,963	575,669	657,386	642,317	441,575
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	256,569	164,680	73,967	369,653	263,422	105,134
United States and Far East	92,112	102,237	194,595	49,540	42,710	28,182
Europe and United States	.....	24,638	31,004	57,582	102,215	91,812
United States and South America	26,057	14,081	13,313	176,189	173,157	31,659
Europe and South America	41,511	44,210	28,989	124,802	156,950	109,202
Cristobal and South America	2,076	3,789	2,089	7,434	6,021	7,436
Europe and Australasia	24,527	45,119	40,269	23,558	13,900	32,981
United States and Australasia	40,828	21,986	27,430	5,800	6,100	1,347
Europe and Canada	23,213	16,918	17,233	112,330	99,718	11,916
Mexico and United States	.....	.....	11,000	.....	1,826	.....
Mexico and South America	9,443	22,005	18,500	.....	.....	.....
United States and Canada	25,158	26,604	.....	30,818	23,244	7,284
Miscellaneous	18,924	15,111	58,721	16,978	36,219	8,990
Totals	560,418	501,378	517,110	974,684	925,482	435,943

LATIN-AMERICAN TRAFFIC.

The tonnage, tolls, and cargo routed to and from Latin-America through the Canal during the month of December, 1922, classified by nationality of vessels is shown in the following tabulation:

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	18	46,208	58,274	77,016	47,293	$52,225.72	29,908
Chilean	1	3,095	4,705	7,310	3,976	3,868.75	2,952
Danish	5	12,452	14,509	18,111	11,141	11,506.87	2,161
Dutch	4	10,774	12,920	16,232	10,020	13,467.50	12,023
French	1	3,600	4,146	5,765	3,681	4,500.00	1,069
German	4	11,675	15,756	17,869	10,675	14,593.75	10,882
Italian	1	4,030	5,011	7,028	4,175	5,037.50	1,016
Japanese	1	3,666	4,282	5,848	3,633	4,582.50	3,617
Mexican	1	1,675	2,292	2,876	1,892	2,093.75	.....
Norwegian	4	9,508	13,998	15,134	9,499	10,565.37	818
Peruvian	3	6,014	8,908	12,685	7,030	7,382.80	6,635
United States	15	54,972	66,492	87,627	54,278	59,857.16	26,930
Totals, December, 1922	58	167,669	211,293	273,501	167,293	189,681.67	98,011
Totals, November, 1922	54	143,788	188,040	243,161	145,921	162,524.41	97,163
Totals, December, 1921	52	131,175	164,366	213,863	133,282	156,141.99	119,860

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Pacific to Atlantic.							
Belgian	1	3,211	3,988	5,137	3,165	$4,013.75	7,500
British	26	77,360	96,799	123,870	77,152	91,132.98	127,594
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	88
Danish	2	6,032	6,992	9,401	5,868	7,540.00	13,049
Dutch	2	8,745	11,337	14,082	8,624	10,931.25	18,790
French	1	3,566	4,081	5,681	3,600	4,457.50	6,670
German	1	2,550	3,392	4,177	2,588	3,187.50	5,750
Italian	1	3,306	3,974	5,488	3,276	4,132.50	6,517
Japanese	1	4,349	4,700	5,873	4,254	5,436.25	7,800
Norwegian	3	7,772	9,200	11,359	7,155	7,414.70	4,650
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,695
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	5,968
United States	16	52,418	62,906	84,890	52,916	65,174.40	112,332
Totals, December, 1922	59	179,144	223,763	292,808	181,551	$215,714.58	325,403
Totals, November, 1922	70	203,399	254,296	328,803	203,130	$246,795.94	366,777
Totals, December, 1921	54	148,770	182,195	240,108	151,148	$169,551.45	154,087

TRAFFIC BY NATIONALITY.

A statement of all commercial traffic passing through the Canal during the month of December, 1922, classified according to the nationality of the various vessels, is shown in the following tabulation:

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific.							
British	52	193,075	241,775	308,638	193,826	$220,104.83	165,530
Chilean	1	3,095	4,705	7,310	3,976	3,868.75	2,952
Danish	5	12,452	14,509	18,111	11,141	11,506.87	2,161
Dutch	4	10,774	12,920	16,232	10,020	13,467.50	12,023
French	1	3,600	4,146	5,765	3,681	4,500.00	1,069
German	4	11,675	15,756	17,869	10,675	14,593.75	10,882
Italian	1	4,030	5,011	7,028	4,175	5,037.50	1,016
Japanese	4	14,787	17,170	22,548	14,512	18,303.55	22,088
Mexican	1	1,675	2,292	2,876	1,892	2,093.75	.....
Norwegian	5	12,924	17,935	20,623	12,934	14,835.37	7,138
Panaman	2	6,320	6,893	8,374	5,312	5,004.36	.....
Peruvian	3	6,014	8,908	12,685	7,030	7,382.80	6,635
United States	78	293,830	365,857	459,032	285,301	328,486.56	328,924
Totals, December, 1922	161	574,251	717,877	907,121	564,475	659,185.59	560,418
Totals, November, 1922	148	552,805	694,963	863,193	539,277	636,330.48	501,378
Totals, December, 1921	135	468,028	575,669	720,502	459,490	571,743.49	517,110
From Pacific to Atlantic.							
Belgian	1	3,211	3,988	5,137	3,165	4,013.75	7,500
British	49	167,034	208,027	259,899	163,490	203,016.78	277,941
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	88
Danish	2	6,032	6,992	9,401	5,868	7,540.00	13,049
Dutch	2	8,745	11,337	14,082	8,624	10,931.25	18,790
French	2	5,875	7,127	9,328	5,956	7,343.75	11,370
German	1	2,550	3,392	4,177	2,588	3,187.50	5,750
Italian	1	3,306	3,974	5,488	3,276	4,132.50	6,517
Japanese	6	25,453	28,445	36,293	24,935	31,483.75	46,963
Norwegian	5	15,410	18,844	23,570	14,810	16,962.20	14,646
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	8,695
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	5,968
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,500
United States	68	280,270	344,847	433,587	278,434	349,663.05	551,907
Totals, December, 1922	143	529,974	657,386	827,557	526,957	653,384.53	974,684
Totals, November, 1922	146	509,920	642,317	806,293	505,556	628,106.06	925,482
Totals, December, 1921	104	359,312	441,575	563,997	360,941	431,854.78	435,943
Combined traffic.							
Belgian	1	3,211	3,988	5,137	3,165	4,013.75	7,500
British	101	360,109	449,802	568,537	357,316	423,121.61	443,471

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Combined traffic.—continued.							
Chilean	2	4,906	7,887	11,108	6,248	$6,132.50	3,040
Danish	7	18,484	21,501	27,512	17,009	19,046.87	15,210
Dutch	6	19,519	24,257	30,314	18,644	24,398.75	30,813
French	3	9,475	11,273	15,093	9,637	11,843.75	12,439
German	5	14,225	19,148	22,046	13,263	17,781.25	16,632
Italian	2	7,336	8,985	12,516	7,451	9,170.00	7,533
Japanese	10	40,240	45,615	58,841	39,447	49,787.30	69,051
Mexican	1	1,675	2,292	2,876	1,892	2,093.75	.....
Norwegian	10	28,334	36,779	44,193	27,744	31,797.57	21,784
Panaman	3	10,334	11,790	14,760	9,379	10,021.86	8,695
Peruvian	6	10,024	17,223	25,351	13,644	12,395.30	12,603
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,500
United States	146	574,100	710,704	892,649	563,735	688,149.61	880,831
Totals, December, 1922	304	1,104,225	1,375,263	1,734,678	1,091,432	1,312,570.12	1,535,102
Totals, November, 1922	294	1,062,725	1,337,280	1,669,486	1,044,833	1,264,436.54	1,426,860
Totals, December, 1921	239	827,340	1,017,244	1,284,499	820,431	1,003,598.27	953,053

KINDS OF VESSELS.

A further classification of the commercial traffic through the Canal during the month of December, 1922, by nature of vessels, is shown below:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger vessels:						
Laden	120	524,660	$510,747.05	123	537,113	$533,584.45
Ballast	19	81,956	60,885.55	1	2,924	2,105.28
Tankers:						
Laden	3	16,258	18,411.55	15	99,429	104,792.40
Ballast	17	92,597	66,904.44	4	17,920	12,902.40
Passenger ships	1	2,292	2,093.75	.....	.....	.....
Tugs	1	114	143.25	.....	.....	.....
Totals	161	717,877	659,185.59	143	657,386	653,384.53
Steamers	156	703,811	645,305.59	137	638,258	634,704.53
Motor ships	2	13,615	13,363.75	4	18,984	18,522.50
Motor schooners	3	451	516.25	2	144	157.50
Totals	161	717,877	659,185.59	143	657,386	653,384.53

VESSELS WITHOUT CARGO.

The number of ships in ballast transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger vessels:						
British	8	33,536	$25,892.47	.....	.....	.....
Danish	4	11,797	8,583.12	.....	.....	.....
Norwegian	2	9,471	6,819.12	1	2,924	$2,105.28
Panaman	2	6,893	5,004.36	.....	.....	.....
United States	4	20,373	14,729.73	.....	.....	.....
Tankers:						
British	7	33,393	24,211.11	3	14,209	10,230.48
Norwegian	.....	.....	.....	1	3,711	2,671.92
United States	10	59,204	42,693.33	.....	.....	.....
Totals	37	174,667	127,933.24	5	20,844	15,007.68

Two of the British vessels listed above paid tolls at the laden rate on account of carrying an excess amount of fuel.

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of December, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts assessed would have been approximately as indicated. The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these launches, although paying tolls, are excluded from the statements of commercial traffic:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
U. S. Navy vessels:						
Barge	1	[1] 500	$250.00	.....	.....	.....
Launch	1	[1] 5	2.50	.....	.....	.....
Transports	2	[2] 7,505	9,381.25	2	[3] 10,481	$11,207.80
Supply ship	1	[3] 5,003	6,003.60	.....	.....	.....
Tugs	4	[1] 3,750	1,875.00	1	[1] 1,000	500.00
Submarine	.....	.....	.....	1	[1] 845	422.50
U. S. Army:						
Launch	1	[1] 5	2.50	.....	.....	.....
Mine planter	1	[1] 1,208	604.00	.....	.....	.....
Transport	1	[2] 3,908	4,885.00	2	[2] 9,297	11,621.25
Tug	.....	.....	.....	1	[2] 46	55.20
Total Government traffic	12	.....	23,003.85	7	.....	23,806.75
Transited for repairs	1	[3] 4,610	5,532.00	1	[3] 4,610	5,532.00
Launches	2	[3] 4	3.90	1	[3] 2	1.50
Totals	15	.....	28,539.75	9	.....	29,340.25

[1] Displacement tonnage. [2] Registered net tonnage. [3] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried cargo as follows:

	Tons.
Atlantic to Pacific	4,910
Pacific to Atlantic	925

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of December, 1922, are shown in the following tabulations:

	Cristobal.	Balboa.	Total.
Local cargo arriving ... tons	20,239	20,671	40,910
Local cargo shipped ... tons	2,619	308	2,927
Transit cargo arriving ... tons	1,537,443	1,523,781	3,061,224
Transit cargo clearing ... tons	1,544,895	1,515,570	3,060,465
Cargo received for transshipment ... tons	22,831	344	23,175
Cargo transshipped ... tons	24,076	378	24,454
Vessels supplied with bunker coal:			
Army vessels	2	1	3
Commercial, other than Panama Railroad	60	6	66
Panama Railroad vessels	2	.....	2
Total vessels supplied with coal	64	7	71
Coal supplied to above vessels:			
Army vessels ... tons	65	1	66
Commercial, other than Panama Railroad ... tons	16,578	94	16,672
Panama Railroad vessels ... tons	921	.....	921
Total coal supplied to vessels ... tons	17,564	95	17,659
Coal issues, miscellaneous:			
Panama Canal departments ... tons	282	3	285
U. S. Army, excepting vessels ... tons	274	.....	274
Individuals and companies ... tons	247	2	249
Total coal issues from Panama Canal deposits:			
December, 1922 ... tons	18,367	100	18,467
November, 1922 ... tons	14,445	2,108	16,553
December, 1921 ... tons	25,049	367	25,416

	Cristobal.	Balboa.	Total.
Coal on hand, January 1, 1923 ... tons	96,607	(1)	96,607
Coal on hand, December 1, 1922 ... tons	105,352	.....	105,352
Coal received during December, 1922 ... tons	9,622	.....	9,622
Coal borrowed from Navy ... tons	.....	100	100
Fuel oil issues from Panama Canal tanks:			
Panama Canal departments ... bbls	5,350	17,280	22,630
Panama Railroad Company ... bbls	136	.....	136
Army and Navy ... bbls	102	1,095	1,197
Individuals and companies ... bbls	.....	19	19
Total issues and sales ... bbls	5,588	18,394	23,982
Fuel oil on hand, January 1, 1923 ... bbls	43,637	65,888	109,525
Fuel oil on hand, December 1, 1922 ... bbls	48,921	82,885	131,806
Fuel oil inventory overage, January 1, 1923 ... bbls	304	1,397	1,701
Diesel oil issued during December, 1922 ... bbls	9	.....	9
Diesel oil sold during December, 1922 ... bbls	9	.....	9
Diesel oil on hand, January 1, 1923 ... bbls	44,951	853	45,804
Oil pumped for individuals and companies ... bbls	279,423	250,035	529,458
Miscellaneous transfers ... bbls	10,912	430	11,342
Total oil handled ... bbls	295,941	268,859	564,800
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	19	5	24
Measured for Panama Canal net tonnage	4	3	7
Remeasured for Panama Canal net tonnage	12	4	16
Panama Canal net tonnage corrected	13	1	14
U. S. equivalent tonnage corrected	19	7	26
Services of harbor equipment:			
Tugs, total operating hours	367	181	548
Launches, total operating hours	1,195	1,221	2,416
Scows, total operating hours	.....	48	48
Revenues from tug services, pilotage, etc.:			
Tug service	$10,755.00	$5,608.75	$16,363.75
Launch service	1,499.50	1,723.50	3,223.00
Pilotage	12,527.00	5,234.00	17,761.00
Seamen	5,120.00	4,824.00	9,944.00
Wharfage	.....	4,699.99	4,699.99
Ships measured	200.00	100.00	300.00
Miscellaneous cash collections	1,406.62	603.50	2,010.12
Vessels repaired at Panama Canal shops:			
Commercial	36	16	52
U. S. Army and Navy	4	7	11
Canal equipment	5	18	23
Vessels dry-docked:			
Commercial	.....	2	2
U. S. Army and Navy	2	2	4
Canal equipment	.....	1	1
Clearances issued	190	181	371
Bills of Health issued	183	181	364

[1] Coal is available from Navy stock.

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during December, 1922:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	357	2,046,221	1,273,011	323	1,840,030	1,153,853
Vessels entering port but not transiting the Canal	51	257,454	154,360	12	45,289	28,227
Vessels transiting Canal and handling passengers or cargo	55	268,957	164,917	41	188,130	112,389
Ships clearing.						
All vessels, including those transiting Canal	367	2,045,362	1,276,167	322	1,828,211	1,145,007
Vessels entering the port but not transiting the Canal	64	260,070	160,420	12	45,351	28,325
Vessels transiting Canal and handling passengers or cargo	55	284,380	174,355	41	182,112	107,708

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of December, 1922:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First-class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,280	819	2,099	24	23	47
From Pacific ports	134	102	236	138	63	201
Total disembarking	1,414	921	2,335	162	86	248
Embarking:						
For Atlantic ports	837	1,282	2,119	4	.....	4
For Pacific ports	266	113	379	67	63	130
Total embarking	1,103	1,395	2,498	71	63	134
Remaining on board vessels:						
From Atlantic to Pacific ports	1,172	3,724	4,896	1,386	3,523	4,909
From Pacific to Atlantic ports	463	719	1,182	604	863	1,467
From Atlantic to Atlantic ports	313	105	418	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	25	143	168
Total remaining on board	1,948	4,548	6,496	2,015	4,529	6,544
Total passengers arriving	3,362	5,469	8,831	2,177	4,615	6,792
Total passengers departing	3,051	5,943	8,994	2,086	4,592	6,678

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of December, 1922:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$113.84	$447.58	$1,610.03	$376.96	.....	$2,548.41
Panama Railroad vessels	14.85	2,449.20	33.21	528.00	.....	3,025.26
Other commercial vessels	759.98	11,879.86	4,118.91	1,071.62	.....	17,830.37
Total sales December, 1922	888.67	14,776.64	5,762.15	1,976.58	.....	23,404.04
Total sales, November, 1922	894.80	12,798.55	4,217.87	1,907.60	.....	19,818.82
Total, sales, December, 1921	1,420.53	24,558.73	5,499.03	1,676.38	.....	33,154.67
Sales at Balboa to:						
U. S. Government vessels	118.09	6,678.91	533.60	162.37	.....	7,492.97
Other commercial vessels	356.53	4,614.34	1,023.89	697.27	573.17	7,265.20
Total sales, December, 1922	474.62	11,293.25	1,557.49	859.64	573.17	14,758.17
Total sales, November, 1922	412.93	14,151.02	1,875.08	1,514.24	30.85	17,984.12
Total sales, December, 1921	349.74	15,697.89	3,815.83	367.94	2,319.83	20,231.40

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of December, 1922, as compared with November, 1922, and with December, 1921:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Dec., 1922.	Nov., 1922.	Dec., 1921.
Gatun	140	154	294	5	4	9	303	300	248
Pedro Miguel	140	154	294	11	11	22	316	319	269
Miraflores	142	160	302	11	11	22	324	316	256
Number of vessels put through locks.									
Gatun	148	163	311	14	15	29	340	327	306
Pedro Miguel	145	162	307	28	39	67	374	352	335
Miraflores	145	162	307	28	34	62	369	361	338

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
Army and Navy vessels	22	20	20
Canal equipment	7	47	42

The total consumption of water for lockages, maintenance and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,198,470,000	1,085,770,000	953,730,000
Leakage	25,000,000	20,000,000	20,000,000
Maintenance	.....	.....	6,150,000
Total consumption, December, 1922	1,223,470,000	1,105,770,000	979,880,000
Total consumption, November, 1922	1,247,670,000	1,209,890,000	968,220,000
Total consumption, December, 1921	984,180,000	969,810,000	884,760,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of December, 1922, are shown in comparative form:

Rainfall.	December, 1922.	December, 1921.	December—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific Section	6.48	4.25	12.18	1.06	5.14
Central Section	6.25	5.50	16.43	.71	5.87
Atlantic Section	8.42	9.00	39.34	1.85	11.83
Maximum recorded on any one day	2.65	4.12	[1]10.86	.....	.....
Gatun Lake watershed	7.61	7.81	26.20	1.15	5.26
Chagres River watershed above Alhajuela	8.28	6.96	37.54	1.29	8.85
Maximum recorded for month at any one point	13.45	13.86	58.17	.....	.....
Minimum recorded for month at any one point	3.82	2.94	.....	.....	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	4,058	3,641	17,300	1,265	3,876
Maximum momentary discharge for month	34,892	25,600	[2]170,000	.....	.....
Gatun Lake watershed total yield	8,292	8,211	9,923	3,005	6,257
Gatun Lake watershed net yield	7,842	7,649	9,218	2,158	5,670
Draft on Gatun Lake for lockages and power	2,186	2,167	2,377	583	1,788

[1] Recorded at Porto Bello on December 28-29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909.

SEISMOLOGY.

Seismic tremors were recorded on the 8th, 18th, 28th, and 29th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	December, 1922.	November, 1922.	December, 1921.
Gross output, KWH:			
Gatun hydroelectric station	4,549,600	4,378,700	4,942,900
Miraflores steam plant	120	5,890	300
Power distributed to consumers ..... KWH	3,909,408	3,782,968	4,235,893
Loss of power in plant auxiliaries, transmission, and transformation ..... KWH	640,312	601,622	707,307
Per cent of loss of power to gross output	14.07	13.72	14.3
Water consumption ..... cubic feet	3,572,276,155	3,460,786,062	3,883,984,374
Oil consumption ..... barrels	1,258	1,419	1,882

SHOP, FOUNDRY AND DRY DOCK WORK.

Miscellaneous repairs were made during the month on 45 vessels at Cristobal, and 41 vessels at Balboa. Of these, 2 were placed in dry dock at Cristobal, and 5 at

Balboa. The more important items of repair work performed during the month included the following:

The gunboat *Bravo* was docked, cleaned and painted. Parts repaired or replaced included the starboard tail shaft, propeller hub and blades for propeller, guide for main engine, piston and brace rods, connecting rods for air pump, etc. Several engine parts and 4 check valves were manufactured and installed.

The widening of the hull of the dredge *Gamboa* to increase her stability was completed and the dredge was returned to the Dredging Division.

Alteration of the craneboat *La Valley* to oil burning, replacing wood deck with steel deck, and construction of new deck houses were completed.

The Spanish passenger steamer *Antonio Lopez* passed through the Canal from Cristobal to Balboa to undergo repairs, was dry-docked and new tail shaft and propeller were installed.

The Norwegian steamship *Unita*, which was damaged by grounding and afterwards pounding on a coral bank, was docked for examination. Almost the entire flat of her bottom was deformed. Temporary repairs were made to allow the vessel to proceed to the United States for repairs.

Work was begun on removing the engines from the motorship *Chiralite* and installing new and more powerful ones.

The output of the foundry in patterns and castings for December, 1922, as compared with November, 1922, was as follows:

	December, 1922.			November, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	5	256	24,243	2	230	18,271
Steel	1	83	14,729	1	169	7,683
Nonferrous	7	403	3,394	.....	327	3,887

The following is a statement of all jobs and blanket orders issued and completed during December, 1922:

	Uncompleted December 1.	Authorized December.	Completed December.	Uncompleted December 31.
Job orders	423	545	567	401
Blanket orders	347	1	1	347

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	December, 1922.	November, 1922.	December, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	685,469,000	634,710,000	663,173,000
Filtration plants	397,091,000	359,932,000	391,375,000
Water consumed by Panama City	90,626,000	84,945,000	90,888,000
Water consumed by Colon	64,251,250	56,028,500	42,337,000
Sales of water to vessels	8,392,605	7,811,311	10,993,100

DREDGING.

During the month of October, 1922, a slight general surface movement was noted over the old East Culebra slide area, the movement continuing through the month of November, during which time a perceptible breaking up in the adjacent areas to the north and northeast of the old break was noted.

During the night of December 20, 1922, a slide occurred affecting almost the whole water front of the old East Culebra slide area. The first general movement caused a 20-foot vertical drop in the bank on the north and northeast end of the slide, averaging 25 feet back of the limits of the old break for a distance of 1,300 feet. Before the general movement had ceased, the average distance of the break into the new bank was 110 feet and the average vertical drop 90 feet over a length of 1,800 feet, the maximum break into the bank amounting to 275 feet.

It is estimated that 600,000 cubic yards of material broke into the old slide area from the north, and approximately the same amount of old slide material was pushed into the safety basin which had been excavated at the base of the slide. Crossing the basin, about 150,000 yards reached the Canal prism.

At the base of the slide the ultimate maximum movement in the shore line was 250 feet. Over a distance of 1,300 feet it averaged 115 feet. The toe of the slide, beneath the water, reached out to the center line on a frontage of 200 feet. One narrow point projected entirely across the channel. The minimum depth of water, however, was 34 feet.

Immediately on discovery of the slide the morning of the 21st, the dredges *Paraiso* and *Cascadas* were put at work at the base and at the close of the month the channel had been cleared full width to a navigable depth of 37 feet, a total of 127,050 cubic yards of material having been removed from the basin and prism. No further slide movement preventing, full channel depth will be realized the first few days of January and it is anticipated that the basin at the foot of the slide will be entirely cleared by the end of February.

Characteristic with past slide movements in this locality a push-up in the basin at the foot of the slide was noted simultaneously with the drop in the back area; this movement being accompanied by a succession of waves of the material which moved gradually toward the basin, the material subsequently pushing out into the channel after the basin proper had been almost entirely filled. If it had not been for the basin the Canal would have been closed, as the basin absorbed all but 150,000 cubic yards of the total of 595,000 moving into the basin and channel.

A survey made at the back of the slide to ascertain possible factors contributing toward this slide movement revealed numerous seepage streams coming in at the base of the drop, approximately 75 feet below the surface of the ground, over practically the entire distance of the new break. The direction was from Lirio Lagoon, the drainage surface of which is on an elevation approximating that of these seepage streams. It is believed that the seepage from the lagoon, intensified by the torrential rains of the past few months, aided greatly in lubricating the lower strata, and is accountable in no small part for this, as well as previous slides at this point.

Simultaneously with the general movement occurring at East Culebra, the West Culebra slide showed a slight movement and at one point extended into the Canal prism for a distance of 32 feet. This material was cleaned up by 10 o'clock in the morning of the 22d and very little material has entered the Canal prism from the west side since that date.

There was no interference with Canal traffic with the exception of the steamship *Amsterdam*, drawing 34 feet, which was detained from 11 a. m. on the 23d to the morning of the 24th. Although a 35-foot channel was available at the time it was not deemed advisable to pass a ship with this draft owing to the fluctuation of the water in the Cut due to lockages at Pedro Miguel.

All other slides, were quiescent during the month.

The total excavation during the month of December, 1922, including earth and rock, was 421,400 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Stations.	Equipment.
	Earth.	Rock.			
				Gaillard Cut.	
71,500	30,800	40,700	Maintenance	East Culebra slide	*Cascadas.*
72,800	27,450	45,350	Maintenance	West Culebra slide	*Cascadas.*
39,950	4,000	35,950	Maintenance	La Pita improvement project	*Paraiso.*
60,750	24,300	36,450	Maintenance	East Culebra slide	*Paraiso.*
				Pacific entrance.	
27,500	27,500	.....	Maintenance	West side of Canal	*No. 86.*
148,900	148,900	.....	Maintenance	East side of Canal	*No. 86.*
421,400	262,950	158,450			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped in Gatun Lake, north of Gamboa	245,000
Dumped in San Juan Hill, Pacific entrance	176,400
Total	421,400

VITAL STATISTICS.

A total of 178 deaths occurred during the month of December, 1922, in the total population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 17.43 per thousand. The leading causes of death were: pulmonary tuberculosis 27, nephritis (acute and chronic) 22, pneumonia (broncho, lobar and unqualified) 17, diarrhea and enteritis (under 2 years) 14, organic disease of the heart, 14.

Of the total deaths, 58, or 32.6 per cent, occurred among children under 5 years of age. There were 14 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 280 live births reported during the month, and 13 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 28.69 per thousand population. Deaths among children under 1 year of age numbered 35, giving an infant mortality rate of 125 per thousand live births.

Seventeen cases of malaria were reported from Panama, 7 from Colon, 101 from the Canal Zone, and 28 originated outside of our sanitary jurisdiction. Of these cases, 25 were employees, 67 soldiers and sailors, and 77 were not in the service of the United States. There were 3 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of December 31, 1922.			Comparative totals.		
	Men.	Women.	Children.	December, 1922.	November, 1922.	December, 1921.
Americans	2,341	1,845	2,023	6,209	6,125	6,600
Europeans	92	30	75	197	191	260
West Indians	4,030	2,695	5,797	12,522	12,566	12,723
Totals, December, 1922	6,463	4,570	7,895	18,928	.....	.....
Totals, November, 1922	6,403	4,531	7,948	.....	18,882	.....
Totals, December, 1921	7,372	4,529	7,682	.....	.....	19,583

WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of December 20, 1922, with a comparison of the working force on November 15, 1922, and that of December 21, 1921:

	As of December 20, 1922.			Total employees.	
	Gold.	Silver.	Total.	November, 1922.	December 1921.
Operation and Maintenance:					
Office	25	35	60	61	64
Electrical	143	139	282	282	304
Muncipal Engineering	74	527	601	584	557
Lock Operation	168	614	782	680	877
Dredging	132	784	916	901	781
Mechanical	323	542	865	955	995
Marine	156	401	557	555	523
Fortifications	29	105	134	116	240
Totals	1,050	3,147	4,197	4,134	4,341
Supply Department:					
Quartermaster	133	893	1,026	1,011	1,243
Subsistence	6	81	87	76	244
Commissary	160	757	917	913	1,088
Cattle Industry—Plantations	6	137	143	147	179
Hotel Washington	8	85	93	86	90
Transportation	32	138	170	170	.....
Totals	345	2,091	2,436	2,403	2,844
Accounting Department	182	8	190	193	199
Health Department	220	701	921	914	949
Executive Department	469	254	723	721	756
Totals	871	963	1,834	1,828	1,904
Panama Railroad Company:					
Superintendent	46	242	288	293	285
Transportation	63	104	167	164	179
Receiving and Forwarding Agency	64	851	915	916	855
Coaling stations	80	741	821	716	519
Totals	253	1,938	2,191	2,089	1,838
Grand totals, December, 1922	2,519	8,139	10,658	.....	.....
Grand totals, November, 1922	2,517	7,937	.....	10,454	.....
Grand totals, December, 1921	2,759	8,168	.....	.....	10,927

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month of December, 1922, cash sales from stock, etc., are shown below in comparative form:

	December, 1922.	November, 1922.	December, 1921.
Material received on United States requisitions, chargeable as follows:			
Operation and Maintenance	$201,087.56	$169,596.37	$111,827.15
Miscellaneous Departments	4,007.55	3,589.83	5,712.88
Totals	205,095.11	173,186.20	117,540.03
Cash sales on the Isthmus:			
Stock	23,985.63	23,611.74	26,728.27
Fuel oil	1,787.43	364.38	25.97
Scrap	843.70	612.42	923.41
Obsolete and second-hand material	7,656.95	5,840.64	2,857.30
Totals	34,273.71	30,429.18	30,534.95

Respectfully,

JAY J. MORROW,

Governor.

Passage of the "Empress of France" on Cruise Around the World.

The Canadian Pacific steamship *Empress of France*, carrying a party of 727 passengers on a cruise around the world, under the management of Clark's Tours, arrived at Cristobal in the morning of January 29, and after coaling made the transit of the Canal on January 30. After a stop of between 5 and 6 hours at Balboa, the ship cleared for San Francisco.

This is the third around-the-world cruise which has passed through the Canal, and the largest. It is believed to be the largest tour party to have visited the Isthmus. Its members were, however, accommodated excellently during their stops ashore at both ends of the Canal. They had luncheon and dinner at the Hotel Washington on the day of arrival, during which as many as 600 meals were served simultaneously.

Four Steamers of the Same Line Transit Canal in One Day.

Four steamers of the Luckenbach Line, the *Robert Luckenbach*, *Harry Luckenbach*, *Lena Luckenbach*, and *Andrea F. Luckenbach*, combining a gross registered tonnage of 34,338 tons, and carrying a combined cargo of 22,827 tons of general merchandise and 2,794,000 board feet of lumber transited the Canal on January 20.

The *Robert Luckenbach*, *Harry Luckenbach*, and *Lena Luckenbach* made the transit eastbound, the 2 former enroute from Portland, Oreg. to New York, and the latter from Portland, Oreg. to Mobile. The *Lena Luckenbach* made the transit westbound, en route from Philadelphia to Los Angeles.

Tolls on the above 4 vessels totaled $26,987.50.

Smallpox Quarantine.

On account of the smallpox reported in Valparaiso, Chile, the Chief Quarantine Officer of The Panama Canal has issued instructions that no person arriving from Valparaiso shall be allowed ashore in the Canal Zone unless vaccinated by a physician of the Canal quarantine service.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 27, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Orient City	20	14.47	21	6.30	21	19.14	21	20.05	British	St. Just Steamship Co	396.0	53.0	24.0	Port Arthur	Rockhampton	General	6,350	5,682	4,229
Lyons Maru	21	7.00	21	7.28	21	19.52	21	21.01	Japanese	Nippon Yusen Kaisha	445.0	58.0	23.8	New York	Yokohama	(1)	5,697	7,720	5,497
El Condado	21	6.40	22	6.25	22	13.57	22	16.10	Spanish	Cie. Gen. de Navigacion	330.6	48.9	12.0	Cardiff	Iquique	Ballast		3,730	2,637
Trekieve	21	20.28	22	7.35	22	15.42	22	16.57	British	E. Hain & Sons	400.0	52.4	21.0	St. John's	Auckland	General	4,342	5,766	4,083
Archer	21	15.03	22	7.55	22	19.37	22	20.39	American	Barber Line (S. B.)	440.0	56.0	22.3	New York	Honolulu	General, case oil	5,752	8,315	6,109
Radnor	22	6.15	22	8.50	22	20.24	23	15.00	American	Tampa Interocean S. S. Co. (S.B.)	434.3	57.7	27.1	New Orleans	Honolulu	General, case oil	8,549	7,993	5,871
Agwibay	22	6.50	22	9.33	22	21.15	23	2.45	American	Guarantee Trust Co.	468.3	62.7	18.0	Baltimore	Los Angeles	Ballast		10,084	7,431
Santa Paula	21	6.50	22	10.43	22	21.58	22	22.50	American	Grace Line	404.6	53.0	23.2	New York	Tacoma	General	6,048	6,756	4,775
Lochgoil[1]	22	6.30	23	6.29	23	16.30	23	19.48	British	Royal Mail Steam Packet Co	485.0	62.0	22.5	Rotterdam	Los Angeles	General	4,348	10,803	7,590
Petricola	22	17.41	23	7.45	23	17.20	23	21.12	British	Anglo-Saxon Petroleum Co	412.0	53.3	20.0	London	San Francisco	Ballast		6,331	4,422
John D. Archbold	22	19.25	23	8.00	23	19.02	23	20.00	American	Standard Oil Co	554.9	75.3	23.0	New York	Los Angeles	Ballast		14,785	10,313
Hermes	22	7.24	23	8.54	23	20.04	24	13.25	Dutch	Royal Netherlands W. I. Mail	363.0	48.0	19.6	London	Guayaquil	General	3,556	4,182	3,059
Mineola	22	20.48	23	9.00	23	20.25	24	2.45	American	Grace Line	298.6	40.0	18.0	New York	Salaverry	General	1,804	2,835	1,805
Norman Monarch	22	23.56	23	10.40	23	20.55	23	22.08	British	Monarch Steamship Line	400.0	52.0	18.0	Savannah	Arica	Ballast		5,568	4,146
Tilthorn	23	6.37	23	11.05	23	22.36	23	23.40	Norwegian	Britannia Steamship Co	420.2	53.9	15.0	Newport News	Iquique	Ballast		6,591	4,730
Sabine Sun	22	11.40	23	12.14	23	21.37	23	20.33	American	Sun Oil Co	445.1	59.0	19.11	Chester	Los Angeles	Ballast		7,898	5,459
Kambangan	23	11.40	24	6.25	24	14.15	24	15.35	Dutch	Nederland Steamship Co	430.0	50.0	16.5	Newport News	Antofagasta	Ballast		7,197	5,000
Grace Dollar	24	6.47	24	7.30	24	16.00	24	20.55	British	Dollar Line	478.0	56.0	17.0	New York	Vancouver	General	1,500	7,118	5,196
Sciota[2]	17	13.15	24	7.49	24	14.00	24	22.45	American	U. S. Navy	155.0	30.0		Cristobal	Balboa				
Peshawur	24	6.37	24	11.49	24	18.16	25	7.17	British	Peninsula & Oriental Line	450.0	58.0	26.5	London	Auckland	General, iron	5,202	8,174	5,332
Erviken	23	22.55	24	13.26	24	20.29	25	7.39	Norwegian	H. J. Wallan	420.0	51.0	14.0	Boston	Caleta Colosa	Ballast		6,979	5,131
John A.[3]	24		24		24	13.33			American	J. A. Walker				Cristobal	Gatun Lake	Ballast		10	10
Owego	24	4.46	25	6.30	25	15.08	25	16.25	American	S. F. Cottle	325.0	41.0	21.7	New Orleans	San Diego	General	3,600	3,215	2,033
Bengalis	24	11.37	25	7.30	25	15.59	25	17.35	Dutch	Nederland Steamship Co	417.7	54.5	18.10	Immingham	Iquique	Ballast		6,964	5,019
Port Bowen	24	23.04	25	8.17	25	17.06	25	18.00	British	Commonwealth & Dom. Line	485.0	62.0	25.0	New York	Auckland	General	2,647	10,745	7,849
W. S. Rheem	25	0.32	25	8.55	25	18.00	25	18.54	American	Standard Oil Co	500.0	68.2	23.0	New York	Los Angeles	Ballast		11,224	7,860
Aysen	22	20.05	25	9.31	25	19.17	25	20.26	Chilean	Chilean Line	379.6	44.3	20.6	Cristobal	Valparaiso	General	497	4,535	3,068
Muncaster Castle	23	23.50	25	10.30	25	20.25	26	0.25	British	James Chambers & Co	412.0	59.0	27.3	Boston	Manila	General	6,001	5,721	4,305
Agwistar	25	2.23	25	11.00	25	21.10	25	22.13	American	New York & Cuba Mail S. S. Co	370.0	53.1	25.3	Philadelphia	Portland	General	6,800	5,523	4,203
Jesseric	25	10.28	25	11.50	25	22.05	25	23.28	British	Andrew Weir & Co	370.0	52.0	21.0	Port Talbot	Antofagasta	Ballast		5,906	4,443
Point Arena	24	18.45	25	12.00	25	22.06	25	15.45	American	Siler Mill & Co	251.0	43.5	18.5	Philadelphia	San Francisco	General	3,250	2,373	1,605
Ensley City	25	2.54	25	13.05	25	22.55	26	1.35	American	U. S. Steel Products Co	396.0	55.0	21.7	Philadelphia	Talcahuano	General, mach'y.	4,459	7,285	5,256
Mari	25	12.20	26	6.45	26	16.42	26	17.55	Peruvian	Compania Naviera Amaze	350.0	50.0	20.0	Newport	Callao	Coke and coal	4,500	4,346	3,084
Salvador	19	17.33	26	7.25	26	15.35	26	16.45	British	Pacific Steam Navigation	215.0	35.4	14.4	Cristobal	Champerico	General	551	1,270	735
Balboa	24	19.30	26	7.25	26	15.29	26	16.45	Colombian	Compania Costancia Colombiana	190.0	29.1	13.6	Pto. Colombia	Buenaventura	General, salt	364	737	335

[1] Motor ship. [2] Tug. [3] Launch. [4] Tin plate, machinery, engine oil, cotton, and merchandise.

Java	25	13.45	26	8.40	26	16.47	26	17.55	Dutch	Nederland Steamship Co	369.0	48.0	16.6	Amsterdam	Iquique	Ballast		5,071	3,615
Akera	23	18.45	26	9.00	26	17.35	26	18.45	British	Anglo-Saxon Petroleum Co	401.0	52.0	19.0	Cristobal	Los Angeles	Ballast		6,132	4,512
Aegina	25	23.35	26	9.40	26	18.12	26	22.08	German	Roland Line	317.0	46.0	14.0	Hamburg	Puntarenas C.R	General	490	3,529	2,532
J. C. Donnell	26	8.20	26	10.20	26	19.10	26	20.13	American	Atlantic Refining Co	500.0	68.0	24.0	Philadelphia	Los Angeles	Ballast		10,435	8,400
Gothiestar	25	16.24	26	11.05	26	20.16	27	12.15	British	Blue Star Line	420.5	54.7	16.0	London	Seattle	Ballast		7,521	5,852
Susquehanna	26	12.55	26	13.05	26	21.04	27	22.08	American	Swayne & Hoyt (S. B.)	501.0	58.0	29.10	New Orleans	Los Angeles	General		5,967	11,064	7,526
Jason[s]	9	16.33	26	14.07	26	16.43			American	U. S. Navy	514.0	65.0	30.3	Cristobal	Gatun Lake	Coal for fleet		9,000		
Orient	26	14.15	27	6.35	27	14.13	27	15.43	American	Oriental Navigation Co	376.4	52.0	23.6	Mobile	Los Angeles	General		6,000	5,455	3,879
Aconcagua	26	13.30	27	7.30	27	15.48	27	16.55	Chilean	Chilean Line	422.8	56.2	23.3	New York	Valparaiso	General		865	7,758	4,705
Roland	26	20.20	27	8.10	27	16.46	27	18.13	German	Roland Line	361.0	51.5	19.4	Hamburg	Corral	General		2,704	4,791	3,374
Mantaro	21	22.30	27	10.40	27	18.16	27	23.56	Peruvian	Peruvian Line	360.0	46.0	16.6	Cristobal	Callao	General		461	4,838	2,959
Lewis Luckenbach	27	1.08	27	8.51	27	17.27	27	18.40	American	Luckenbach Line	496.0	68.2	25.1	New York	Los Angeles	General		8,538	11,487	8,762

[s] Collier

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Denver			21	6.58	21	14.30	21	21.15	American	U. S. Navy	292.0	44.0	15.0	Balboa	Cristobal				7,636	4,942
Chuky	20	16.15	21	8.10	21	15.01	21	15.01	British	Chile Steamship Co	440.8	56.0	12.0	Tocopilla	Tampico	Ballast				
Benjamin Brewster	20	20.45	21	8.53	21	16.19	21	16.19	American	International Petroleum Co	411.6	53.2	24.6	Talara	Habana	Oil		7,638	6,177	4,244
Venezuela	20	21.15	21	9.43	21	17.17	22	4.25	Italian	Italian Line	437.2	51.6	24.6	Valparaiso	Genoa	General		4,000	7,596	5,011
Almagro	21	2.00	21	11.09	21	17.34	22	16.30	British	Pacific Steam Navigation Co	303.0	43.0	17.6	Guayaquil	New York	General		1,765	2,878	1,714
Yayoi Maru	21	7.45	21	11.41	21	20.05	21	21.50	Japanese	Kokusai Kisen Kabushiki Kaisha	400.0	53.0	24.6	Portland	United King	Wheat		7,177	5,869	4,286
Delaware Sun	21	5.00	21	12.58	21	20.25	21	20.45	American	Sun Co	480.9	66.0	28.0	San Pedro	Philadelphia	Oil		13,500	9,402	6,586
Elder Branch	21	12.30	21	13.45	21	22.05	22	9.05	British	F. W. Ritson	380.0	49.8	23.0	Pimental	Liverpool	General		6,087	4,951	3,592
Mantaro	21	13.40	21	14.57	21	22.30	27	10.40	Peruvian	Peruvian Line	367.3	46.0	17.6	Iloilo	Cristobal	General		1,330	4,838	2,959
Santa Elisa	22	4.50	22	8.10	22	14.20	22	21.10	American	Grace Line	360.3	51.7	23.2	Talcahuano	New York	General		3,243	5,957	4,325
Lake Gadsden	22	6.00	22	8.45	22	16.05	23	1.20	American	Lyken Brothers, Inc	253.4	43.8	17.0	Callao	Conenas	Ballast			2,968	2,078
Peursum	22	7.30	22	9.20	22	17.37	22	19.00	Dutch	Vinke Line	280.0	40.0	20.2	Tocopilla	New Orleans	Nitrate		3,310	2,713	1,667
Norfarer	22	8.00	22	10.28	22	19.30	22	21.20	Danish	Grace Line	364.2	47.4	23.6	Iquique	Baltimore	Nitrate		6,008	4,289	3,106
Portland Maru	22	12.30	22	10.17	22	21.43	22	21.43	Japanese	Kokusai Kisen Kabushiki Kaisha	315.0	51.0	25.0	Vancouver	Hampton R'ds	Wheat		7,500	5,919	4,424
Osiris	22	11.00	22	14.54	22	22.47	22	22.47	German	Kosmos Line	376.0	51.0	23.10	Valparaiso	Hamburg	General		6,390	5,788	4,023
Aysen	21	19.15	22	13.08	22	20.09	25	9.31	Chilean	Chilean Line	378.8	43.9	19.0	Talcahuano	Cristobal	General		270	4,535	3,068
Hanover	22	8.00	23	8.00	23	15.35	24	7.10	American	Tampa Interocean Steamship Co	434.3	57.7	23.0	Taku Bar	New York	General		8,080	7,982	5,910
Orinoco	22	18.55	23	7.49	23	15.27	23	15.27	American	Orinoco Steamship Co	376.4	52.3	20.0	San Francisco	Boston	General		3,829	5,456	3,902
William Rockefeller	22	19.00	23	8.41	23	17.40	23	17.40	American	Standard Oil Co	554.9	75.3	32.3	San Pedro	New York	Oil		20,000	14,785	10,312
Akera	22	22.00	23	9.08	23	18.44	26	9.00	British	Anglo-Saxon Petroleum Co	400.9	52.3	25.6	San Pedro	Cristobal	Oil		6,922	6,132	4,512
Dillwyn	22	22.13	23	12.45	23	21.55	23	21.55	American	Walker & Dally	435.0	56.0	32.0	San Pedro	New York	Oil		8,265	7,602	5,312
Winding Gulf	23	1.20	23	10.31	23	18.42	23	18.42	American	Castner Curran & Bullitt	368.6	55.2	22.9	Gay's Harbor	New York	Lumber		6,300	5,677	3,603
Grant	23	7.00	23	11.19	23	20.16	24	18.00	American	U. S. Army	508.0	55.3	23.7	San Francisco	New York	General		1,232		
Poljana	23	9.30	24	7.07	24	11.53	24	14.53	Norwegian	Winge & Co	360.7	52.2	24.0	Mejillones	Pensacola	Nitrate		7,086	5,451	3,820
Kennecott	23	15.30	24	8.08	24	15.32	25	6.35	American	Williams Steamship Co	345.3	49.6	22.8	Seattle	Norfolk	General, lumber		4,629	4,593	3,381
Eemdijk	24	7.30	24	8.41	24	17.10	24	23.15	Dutch	Holland-American Line	407.2	58.0	23.5	Seattle	Rotterdam	General		7,913	8,514	6,066
Scotland Maru	24	7.55	24	9.50	24	18.15	24	19.15	Japanese	Kokusai Kisen Kabushiki Kaisha	385.0	51.0	25.0	Portland	Hampton R'ds	Wheat		7,613	5,919	4,392
Garfield	24	8.49	24	10.03	24	17.15	24	21.15	American	Grace Line	299.0	45.0	16.0	Salaverry	New York	General		1,406	3,228	2,010
Robert E. Hopkins	23	23.00	24	10.47	24	18.58	24	18.58	American	Tidewater Oil Co	424.4	58.2	26.5	Los Angeles	New York	Oil		10,237	7,333	5,244
Kalfarli	24	22.00	25	8.09	25	17.00	25	17.00	Norwegian	Daniel Steen	414.5	53.7	29.3	Caleta Buena	New York	Nitrate		8,800	6,616	4,532
Santa Malta	24	24.00	25	8.12	25	16.00	25	16.00	American	Pacific Mail Steamship Co	404.6	53.7	26.6	Seattle	New York	General		6,800	6,766	4,809

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Clan McWilliams	6	3.50	25	8.50	25	17.40	25	17.40	British	Clan Line	423.3	55.8	25.6	Melbourne	New York	General	9,710	7,838	5,891
Albert Jeffers	25	1.00	25	8.58	25	17.51	25	17.51	American	Luckenbach Line	384.6	51.2	17.0	Portland	Mobile	General	2,400	6,347	4,453
Oropesa	25	11.30	25	13.11	25	21.35	26	1.45	British	Pacific Steam Navigation Co	530.0	66.3	30.0	Punta Arenas	Liverpool	General	5,918	14,510	10,260
Laura C. Hall	25	8.00	25	12.55	25	22.15			British	Pacific Metals Corp	81.0	28.0	10.0	Buenaventura	Cristobal	(6)	50	132	72
Montpelier	25	13.30	25	14.11	25	22.15	25	22.15	American	United American Lines	460.0	57.9	24.9	San Francisco	New York	General		6,368	4,161
Port Victor	25	15.30	26	6.59	26	14.45	26	16.45	British	Commonwealth & Dom. Line	470.0	58.0	24.0	Wellington	Hull	General		5,857	9,334	6,682
North American	25	19.00	26	7.43	26	14.25	26	20.45	British	American Transport Co	251.0	43.0	20.0	Caleta Buena	Mobile	Nitrate		3,200	2,444	1,571
Trident	26	2.10	26	8.31	26	18.00	26	19.12	British	Hall Brothers	400.0	51.0	21.8	Vancouver	Millaza	Grain		6,283	4,718	3,418
Ohio Maru	26	2.55	26	8.54	26	18.15	26	20.14	Japanese	Kokusai Kisen Kobushiki Kaisha	385.0	51.0	25.0	Vancouver	Europe	Wheat		7,535	5,928	4,381
Edward Pierce	26	8.00	26	10.08	26	19.48	26	21.00	American	Crowell & Thurlow	354.2	49.0	23.0	Everett	Baltimore	Copper, lumber		6,000	4,591	3,261
Sciota			27	7.09	27	14.31			American	U. S. Navy	155.0	30.0		Balboa	Cristobal				
Edgar F. Luckenbach	27	5.00	27	8.03	27	14.42	27	14.42	American	Luckenbach Line	425.0	57.3	24.6	Los Angeles	New York	General		8,900	8,568	6,705
Hallzyn	27	7.50	27	8.57	27	15.52	27	15.53	Norwegian	A. Anderson	420.0	54.0	23.6	Valparaiso	New York	Lumber		6,700		
Paris City	27	8.10	27	10.01	27	17.45	28	13.15	British	W. R. Smith & Sons	412.0	55.0	26.6	Vancouver	Genoa	Wheat		8,964	6,673	4,764
Nordkap	27	9.30	27	11.17	27	19.16	27	19.00	Danish	Ardmore Steamship Co	340.0	42.7	43.6	Iquique	Savannah	Nitrate		5,200	3,755	2,712

(6) Gold, platinum, and hides.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
January 21	Santa Marta	United Fruit Co	New Orleans via Habana.
January 22	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
January 24	Parismina	United Fruit Co	NewOrleans via wayports.
January 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
January 24	Carrillo	United Fruit Co	New York via Kingston.
January 25	Sixaola	United Fruit Co.	Colombian ports.
January 26	Ulua	United Fruit Co	New York via wayports.
January 26	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.
January 27	Megantic	White Star Line	New York via Kingston.
January 27	San Benito	United Fruit Co	Boston via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
January 23	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.
January 23	Colon	Panama Railroad Steamship Line.	New York via Haiti.
January 23	Santa Marta	United Fruit Co	New Orleans via wayports.
January 25	Parismina	United Fruit Co	New Orleans via wayports.
January 25	Carrillo	United Fruit Co	Colombian ports.
January 26	Sixaola	United Fruit Co	New York via Kingston.
January 26	Bravo	Mexican Government	Vera Cruz.
January 27	San Benito	United Fruit Co	Boston.
January 27	Ulua	United Fruit Co	New York via wayports.
January 27	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.

PORT OF BALBOA.

January 22	Baja California	A. O. Lindvig	Vancouver.	January 22	Baja California	A. O. Lindvig	Guayaquil.

*Other than ships passing through the Canal.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 29, 1923.

Adeline Shoal, hitherto uncharted, has been discovered due south of Pedro Gonzales Island in Perlas Islands approximate latitude 8° 22′ N., longitude 79° 06′ 35″ W. Shoal seems to be a rocky ledge, showing at low spring tides only. Exact location and extent will be determined by later Panama Canal survey.

At 6.15 p. m., January 26, 1923, steamship *Santa Marta* passed Cape Gracios a Dios, Nicaragua; light was burning, but at 7.30 p. m. noted the False Cape light, latitude 15° 13′ N., longitude 83° 23′ W., was not burning.

M. L. WALKER,
Acting Governor.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending January 27, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Almagro	Pacific Steam Navigation Co	January 21	January 22	311	425
Venezuela	Italian Line	January 21	January 22	(1)	93
Santa Paula	Grace Line	January 21	January 22	510	183
Santa Marta	United Fruit Co	January 21	January 23	(1)	190
Mantaro	Peruvian Line	January 21	January 27	1,364	465
Sabine Sun	Sun Line	January 22	January 23	141	(2)
Van Renselaer	Royal Netherlands W. I. Mail	January 22	January 23	61	(2)
Hermes	Royal Netherlands W. I. Mail	January 22	January 23	164	30
Aysen	Chilean Line	January 22	January 25	285	487
Lochgoil	Pacific Steam Navigation Co	January 22	January 23	35	25
Akera	Anglo-Saxon Petroleum Co	January 23	January 26	6,922	(2)
Eemdijk	Holland-American Line	January 24	January 24	(1)	206
Carrillo	United Fruit Co	January 24	January 25	330	554
Gen. W. C. Gorgas	Panama Railroad Steamship Line	January 24	.....	1,108	.....
Parismina	United Fruit Co	January 24	January 25	820	118
Garfield	Grace Line	January 24	January 25	94	(2)
Balboa	Compania Costanera Colombiana	January 24	January 25	(1)	47
Oropesa	Pacific Steam Navigation Co	January 25	January 25	10	4½
Laura C. Hall	Pacific Metals Corporation	January 25	.....	50	.....
Sixaola	United Fruit Co	January 25	January 26	1	1
Aconcagua	Chilean Line	January 26	January 26	(1)	200
Aegina	Roland Line	January 26	January 26	12	(2)
Salvador	Pacific Steam Navigation Co	.....	January 26	.....	551
Ulua	United Fruit Co	January 26	January 27	220	164
Van Renselaer	Royal Netherlands W. I. Mail	January 26	January 27	(1)	218
Venezuela	Pacific Mail Steamship Co	January 27	.....	284	.....
San Benito	United Fruit Co	January 27	January 27	9	178

[1] No cargo discharged. [2] No cargo laded.

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the three weeks ended January 27:

Steamships *Clan MacWilliam*, dismantle broken L. P. cylinder; electric weld broken parts together; manufacture new L. P. cylinder cover; re-metal guide shoes and crank pin bearing; lift crank shaft; open up H. P. and I. P. cylinders and valves for examination; renew top and bottom L. P. connecting rod brasses; examine and tighten down holding down bolts of main engine and reassemble all parts of engine; minor repairs to sanitary system; repair grating in stanchions and steam pipe lagging in way of engine repairs and perform minor repairs to galley equipment; *Munindies*, manufacture 1 crank shaft for circulating pump; *Darien*, install studs in place of broken teeth on winch gear wheel and renew about 50 feet of 2-inch galvanized pipe, forepeak, fresh water system; *Sagadahoc*, calk leaky rivets in shell plating, port side; *Point Arena*, repair steering gear, quarter block, and manufacture 2 shells for ice machine bearing; *Lady Sybil*, dock and undock, paint bottom, draw tail shaft for examination; rewood lower half of stern bearing; lift rudder and renew pintles and bushings, open up boiler mountings for examination; repair as

necessary; manufacture windlass gear; repair steering gear and chain and minor repairs to main engines, auxiliaries, deck plates, and gear, as requested by ship's representative; tug *Gatun*, dock and undock, manufacture and install tail shaft and paint underwater body and minor incidental repairs; dredge *Cascadas*, dock and undock; paint underwater bottom 1 coat of lead zinc and 1 coat of anti-fouling; stop leaks in fresh water tank; reline spud well; repair boom and renew bottom boom trunnion; overhaul sea valves and miscellaneous minor repairs incident to above work.

The following vessels were at the Cristobal shops for repairs during the three weeks ended January 29:

Steamships *Bologna*, electric weld horse collar, weld and calk rivets and seams, renew staybolt and electric weld cracks on starboard forward boiler; *Stuyvesant*, machine 6 piston rings; manufacture valve stems, studs, valves and nuts for ballast pump; repair oil pump, sanitary pump, winch pipe, ice machine, piping and King shackle on anchor chain, etc.; *Salvador*, dock, clean and paint; install 2 new blades on propeller and 90 fathoms anchor chain to starboard cable; repair hand pump, bilge suction in engine room, life raft, port, and gangway rail; fit couplings to fire hose; line lamp room with sheet metal, etc.; *Manavi*, renew ash shute, funnel guy eyebolt, 6 tubes in boiler, rudder quadrant race block and plate, and 2 rollers and pins for rudder quadrant; manufacture 4 tube stopper rods, 8 flanges for tube stoppers, 2 auxiliary stop valve spindles and 2 hatch battens; repair gypsy of starboard windlass and boiler check valves, etc.; *Mantaro*, fair margin plates; repair hand railings and angles on sun deck; straighten 1 davit and renew 1 davit; repair boiler as directed; motor schooner *Laura C. Hall*, dock, clean and paint; rebabbitt strut bearings; repair mufflers, exhaust pipe, ventilator pipes in deck, life raft and piping; renew planks in hull, plug up worm holes and calk hull, etc.; steamships *Empress of France*, open and close coaling ports; *General W. C. Gorgas*, repair boom rest; furnish 6 men for scaling, etc.; U. S. S. oil barge *No. 321*, dock, clean and paint; clean cargo tanks 1 to 8; grind in C and R valves, etc.; schooners *Arabia* and *Ambition*, yacht *Gloriana*, launches *Renown*, *Gargoyle*, *Bonita*, and *Podah*, U. S. Army transport *U. S. Grant*, steamships *Huallaga*, *Wm. H. Doheny*, *Balboa*, *Berlin*, *Ellcondado* and *Muncaster Castle*, U. S. submarine *O–11*, and *R–23*, minor repairs.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective January 16, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy,i n drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine,z as, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.21
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

THE PANAMA CANAL RECORD

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., February 7, 1923. No. 26.

January Traffic Through Canal Establishes New High Mark.

A new high record for number of commercial transits, aggregate net tonnage, cargo tonnage, and amount of tolls collected, was established during the month of January, when 352 ocean-going commercial vessels transited the Canal. Tolls for the month aggregated $1,505,285.53, exceeding the previous highest month by $192,715.43.

The detail of the month's traffic was as follows:

	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	Tolls.
Westbound, Atlantic to Pacific.				
Cargo vessels:				
General cargo—				
Laden	130	582,994	564,347	$566,835.30
Ballast	27	118,254	.....	87,661.47
Tank ships—				
Laden	5	24,293	34,396	26,150.00
Ballast	28	172,949	.....	124,890.57
Noncargo vessels:				
Passenger ships	2	24,998	.....	21,276.25
Yacht	1	240	.....	172.80
Tugs	1	50	.....	36.00
Total, westbound	194	923,778	598,743	827,022.39
Eastbound, Pacific to Atlantic.				
Cargo vessels:				
General cargo—				
Laden	137	576,530	813,428	534,892.65
Ballast	2	10,141	.....	7,301.52
Tank ships—				
Laden	17	95,301	170,796	100,136.75
Ballast	1	4,942	.....	3,558.24
Noncargo vessels:				
Cruiser	1	(1)	.....	2,374.00
Total, eastbound	158	686,914	984,224	678,263.16

[1] British cruiser with displacement tonnage of 4,748.

January, 1923, makes the seventh consecutive month in which the revenue from tolls has exceeded the million-dollar mark. The monthly average for number of transits, net tonnage, cargo tonnage, and tolls, for the 7-month period ending January 31, 1923, as compared with the monthly average for the fiscal year ending June 30, 1922, is as follows:

	Number of transits.	Panama Canal net tonnage.	Cargo tonnage.	Tolls.
Monthly average, fiscal year 1923[1]	285	1,273,720	1,358,004	$1,215,332.70
Monthly average, fiscal year 1922	228	951,455	907,076	933,152.70
Excess, 1923 over 1922	57	322,265	450,928	282,180.00

[1] Seven months of fiscal year only.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Frequency of Transit of United States Vessels.

The number of individual ships of United States registry passing through the Canal during the calendar year 1922 was 345. These vessels made an average of approximately 3.7 transits each; the total number of transits of American vessels 1,288.

The greatest number of transits of the Canal by any vessel under United States registry was made by the small steamer *Balboa* owned by the Colombian Maritime Co., and engaged in the Colombian intercoastal trade. She made 17 transits of the Canal during the year under the United States flag, and was transferred to Colombian registry at the close of the year, making one transit under that flag.

The vessel making the second highest number of transits under the United States flag was the *Benjamin Brewster*, a tank ship owned by the Standard Oil Co., and operated by the International Petroleum Co. She was engaged in carrying oil between Mexico and South American west coast ports, and from South American west coast ports to Habana and New York, making a total of 13 transits in the two trades during the year.

Two vessels of the Grace Line, the *Santa Luisa* and the *Santa Teresa*, each made 12 transits of the Canal. Both vessels were on the run between New York and South American west coast ports.

The steamer *Ecuador*, of the Pacific Mail Steamship Co., made 11 transits of the Canal during the year in the United States intercoastal trade, and led all other vessels in this respect. Two other Pacific Mail Steamship Co. steamers, the *Colombia* and the *Venezuela*, each made 10 transits in the intercoastal trade, as also did the *Walter Luckenbach*, of the Luckenbach Line. No other vessels in this trade exceeded 9 transits during the calendar year.

The following table shows the frequency of transits of vessels under American registry during the past year:

Number of transits during year.	Number of vessels.	Per cent of vessels.	Number of transits.	Per cent of transits.
Vessels making 1 transit only	91	26.37	91	7.06
Vessels making 2 transits	69	20.00	138	10.70
Vessels making 3 transits	43	12.46	129	10.00
Vessels making 4 transits	25	7.25	100	7.76
Vessels making 5 transits	34	9.85	170	13.18
Vessels making 6 transits	22	6.38	132	10.24
Vessels making 7 transits	22	6.38	154	11.94
Vessels making 8 transits	13	3.76	104	8.06
Vessels making 9 transits	8	2.32	72	5.58
Vessels making 10 transits	10	2.90	100	7.76
Vessels making 11 transits	4	1.16	44	3.41
Vessels making 12 transits	2	.58	24	1.86
Vessels making 13 transits	1	.29	13	1.01
Vessels making 17 transits	1	.29	17	1.32
Totals	345	100.0	1,288	100.0

From the above tabulation it will be seen that more than one-fourth of the vessels transiting the Canal under the United States flag made one transit only; that approximately 59 per cent of the vessels under United States registry transited the Canal three times or under during the year, and made up less than 28 per cent of the total transits.

Increasing Tank Ship Tonnage Through Canal.

The closing months of the year 1922 marked the beginning of shipments of mineral oil on a large scale from California to North Atlantic and Gulf ports. This traffic, being largely United States intercoastal, has been carried for the most part in vessesl of American registry. Several new steamship lines which previously had not been using the Canal placed vessels in this trade. This accounts for a part of the increase in the United States intercoastal traffic as is shown by the following table, which gives the Panama Canal net tonnage and cargo tonnage for tankships of American registry transiting the Canal during the year together with their respective percentages in relation to the total traffic through the Canal under the United States flag:

Month.	Panama Canal net tonnage of tank ships.	Per cent of total net tonnage.	Cargo tonnage carried by tank ships.	Per cent of total cargo tonnage.
January	23,801	6.3	32,061	8.9
February	26,091	6.6	14,700	3.9
March	46,965	9.9	56,829	12.3
April	32,594	7.3	29,536	5.9
May	57,149	11.1	78,931	13.0
June	40,149	8.7	51,061	10.6
July	76,353	14.6	68,595	11.8
August	56,617	11.4	54,607	9.7
September	64,533	13.0	52,154	9.6
October	127,331	22.0	112,816	17.4
November	168,615	28.2	121,859	18.7
December	156,181	22.0	172,437	19.6
	876,379	12.8	845,556	12.7

For the year as a whole it will be seen that tank ships comprised one-eighth of the total net tonnage transiting the Canal under the American flag, and carried one-eighth of the total cargo. Taking the last 3 months only, tank ships comprised almost one-fourth of the net tonnage, and carried slightly under one-fifth of the total cargo.

Considering the United States intercoastal traffic only, the corresponding ratios of tanker tonnage and cargo were even greater as most of the tanker tonnage was engaged in this trade, particularly so during the closing months.

Eastbound and Westbound Traffic of United States Ships.

Eastbound and wesbound traffic of vessels of United States registry through the Canal in 1922 was comparatively well-balanced, as is shown in the table listing the principal American lines operating vessels through the Canal.

As compared with the total traffic of vessels under United States registry, that moving from the Atlantic to the Pacific comprised 53.6 per cent of the total transits, 53.1 per cent of the total net tonnage, and 46.1 per cent of the total cargo tonnage; and the Pacific-to-the-Atlantic traffic made up 46.4 per cent of total transits, 46.9 per cent of the total net tonnage, and 53.6 per cent of the total cargo tonnage.

United States Shipping Through the Panama Canal During 1922.

During the fiscal year 1922, transits of vessels of United States registry through the Canal, exclusive of vessels of the United States Navy and other Government-owned or chartered vessels not engaged in commercial service and exempt from the payment of tolls, numbered 1,288.

The number of transits, net tonnage, cargo tonnage, and amount of

tolls paid for American shipping in 1922 exceeded that of any previous year.

In the following table the number, tonnage, etc., of American shipping through the Canal is shown in comparison with the combined shipping of all other nations:

Calendar year.	Number of vessels.		Panama Canal net tonnage.		Cargo tonnage.	
	United States.	All other.	United States.	All other.	United States.	All other.
[1]914	161	189	599,125	685,168	808,445	950,180
1915	428	726	1,542,677	2,359,915	1,935,981	2,957,441
1916	257	960	689,160	3,128,544	871,056	3,903,776
1917	506	1,454	1,536.961	4,680.093	1,902,477	5,541,133
1918	683	1,387	2,077,392	4,332,494	2,483,355	4,800,804
1919	887	1,246	2,634,609	4,308,478	3,186,146	4,291,799
1920	1,280	1,534	4,740,923	5,637,342	5,499,422	5,736,697
1921	1,078	1,705	4,697,806	6,738,005	4,555,908	6,151,097
1922	1,288	1,709	4,834,586	8,157,987	6,656,532	7,054,024

The relation of American shipping to total shipping is more clearly shown in the following table, in which percentage figures instead of actual figures are given:

RELATION OF AMERICAN SHIPPING TO TOTAL SHIPPING THROUGH THE PANAMA CANAL, EXPRESSED IN PERCENTAGE FIGURES.

Calendar year.	Number of vessels.		Panama Canal tonnage.		Cargo tonnage.	
	United States.	Other.	United States.	Other.	United States.	Other.
1914	46.0	54.0	46.6	53.4	45.9	54.1
1915	37.1	62.9	39.5	60.5	39.5	60.5
1916	21.1	78.9	18.1	81.9	18.2	81.8
1917	25.8	74.2	24.7	75.3	25.6	74.4
1918	33.0	67.0	32.4	67.6	34.1	65.9
1919	41.6	58.4	38.0	62.0	42.6	57.4
1920	45.5	54.5	45.7	54.3	48.9	51.1
1921	38.7	61.3	41.1	58 9	42.5	57.5
1922	43.0	57.0	37.2	62.8	48.6	51.4

The lowest ebb in United States shipping was during the calendar year 1916, when the percentage of United States shipping to the whole was 21.1 per cent in number of transits, 18.1 per cent in net tonnage, and 18.2 per cent in cargo tonnage.

During 1922, the cargo tonnage carried in vessels of United States registry comprised 48.6 per cent of the total, while the net tonnage of United States vessels made up but 37.2 per cent of the whole. The high ratio of cargo tonnage to net tonnage is accounted for in part by the relative heavy loading of vessels in the United States intercoastal trade, and in part by a considerable number of vessels engaged in carrying ores and mineral oil, in which trades the ratio of cargo tonnage to net tonnage is considerably greater than in ordinary cargoes, though in both of these trades the number of vessels transiting the Canal in ballast is proportionately very large.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., January 31, 1923.

The following recent report by mail from the German steamship *Amassia* on lights in Honduras or Guatemala, contained no date:

1. "Caballos Point Lat 15° 49′ N. Long. 87° 58′ W, showed flash white 4 sec., dark 1 sec., white 4 sec., dark 9 secs., every 18 seconds."
2. "Puerto Cortez lights, Lat. 15° 52′ N., Long. 87° 58′ W. were not burning."
3. "Cape Three Points, Guatemala, Lat. 15° 57′ N. Long. 88° 36′, W., was not burning but was under repair."

M. L. WALKER, *Acting Governor.*

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending February 3, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Venezuela	Pacific Mail Steamship Co		January 28		206
Junin	Pacific Steam Navigation Co	January 28	January 29	70	155
Zenon	French Line	January 28	January 29	47	
Abangarez	United Fruit Co	January 28	January 29	800	228
Gen. W. C. Gorgas	Panama Railroad Steamship Line		January 29		1,422
Ares	Royal Netherlands W. I. Mail	January 28	February 1	234½	134
Amassia	Hamburg-American Line	January 29	January 29	80	1
Magellan	Pacific Steam Navigation Co	January 29	January 30	140	52
Perou	French Line	January 29	February 2	90	120
Ecuador	Pacific Mail Steamship Line	January 30	January 31	406	153
Jan Van Nassau	Royal Netherlands W. I. Mail	January 30	January 31	5	44½
Ucayali	Peruvian	January 30		1,192	
Acajutla	Pacific Steam Navigation Co	January 30		877	
San Bruno	United Fruit Co	January 30	January 31	17	74
Cartago	United Fruit Co	January 31	January 31	969	(1)
Tivives	United Fruit Co	January 31	February 1	109	12
Abangarez	United Fruit Co	February 1	February 1	7	9
Carrillo	United Fruit Co	February 1	February 1	½	17½
Ebro	Pacific Steam Navigation Co	February 1	February 2	246	180
Toloa	United Fruit Co	February 2	February 2	225	63
Darien	Pacific Metals Corporation	February 2	February 3	88	(1)
Panama	Panama Railroad Steamship Line	February 2		2,460	
Bayano	United Fruit Co	February 3	February 3	8	(1)
Losado	Pacific Steam Navigation Co	February 3		86	
Delft	Royal Netherlands W. I. Mail	February 3		116	
Solano	Pacific Mail Steamship Co	February 3		9,000	

[1] No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending February 3, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Almagro	Pacific Steam Navigation Co	January 21	January 21	3	
Aysen	Chilean Line	January 21	January 21	133	
Hanover	Tampa Interocean Steamship Co	January 22	January 22	200	
Baja California	Latin-American Line	January 22	January 22	175	
Laura C. Hall	Pacific Metals Transport. Co., Ltd.	January 25	January 25	6	
Oropesa	Pacific Steam Navigation Co	January 25	January 25	5	
Aegina	Roland Line	January 26	January 26	28	
Salvador	Pacific Steam Navigation Co	January 26	January 26		3
Venezuela	Pacific Mail Steamship Co	January 28	January 28	30	
Seiyo Maru	Toyo Kisen Kaisha	January 28	January 29	760	
Ucayali	Peruvian Line	January 28	January 29		125
Ecuador	Pacific Mail Steamsip Co	January 30	January 30	58	
Acajutla	Pacific Steam Navigation Co	January 30	January 30	1	
Lady Sybil	International Petroleum Co		January 31		32

Leading Steamship Lines Operating United States Vessels Through the Canal.

The table appearing on the following page shows the number of transits, aggregate Panama Canal net tonnage and cargo tonnage of the leading steamship lines owning or operating vessels of United States registry transiting the Canal during the calendar year 1922.

In cases where the vessel was owned by one line and operated by another, the transit was credited to the steamship line operating the vessel at the time of its passage through the Canal.

A number of the steamship lines included therein operated vessels of foreign registry through the Canal during the year, but all vessels of foreign registry were excluded from this table. The principal steamship lines are listed in the order of their total net tonnage:

Steamship Lines Operating United States Vessels Through the Canal.

Steamship Line.	Atlantic to Pacific.			Pacific to Atlantic.			Total traffic.		
	Number of transits.	Panama Canal net tonnage.	Cargo tonnage.	Number of transits.	Panama Canal net tonnage.	Cargo tonnage.	Number of transits.	Panama Canal net tonnage.	Cargo tonnage.
Luckenbach Steamship Co	74	447,667	428,986	74	446,058	435,535	148	893,725	864,521
United States Steel Products Co	75	349,165	556,543	72	344,858	441,463	147	694,023	998,006
American-Hawaiian Line	72	367,000	354,286	60	316,725	435,058	132	683,725	789,344
Standard Oil Co	27	192,805	84,763	24	176,608	288,763	51	369,413	373,526
Pacific Mail Steamship Co	49	184,064	127,729	40	137,595	93,188	89	321,659	220,917
W. R. Grace Steamship Co	42	147,106	83,849	43	153,058	187,360	85	300,164	271,209
North Atlantic & Western Steamship Co	25	113,576	73,163	21	91,713	114,465	46	205,289	187,628
Williams Steamship Co	19	85,959	108,455	26	116,295	122,861	45	202,254	231,316
Ore Steamship Co	14	96,317	.....	13	91,912	228,550	27	188,229	228,550
Barber Line	23	125,247	190,362	12	58,699	80,840	35	183,946	271,202
Crowell & Thurlow	17	87,853	93,428	17	89,063	134,335	34	176,916	227,763
Atlantic, Gulf & Pacific Steamship Co	13	59,286	66,315	16	75,152	92,320	29	134,438	158,635
Sun Co	11	65,480	.....	8	48,135	91,716	19	113,615	91,716
Tampa Interocean Steamship Co	11	66,492	79,571	6	35,867	51,173	17	102,359	130,744
Wessel Duval Steamship Co	11	47,269	35,052	12	50,523	84,764	23	97,792	119,816
Swayne & Hoyt	13	46,894	60,987	12	48,153	34,137	25	95,047	95,124
International Petroleum Co	8	38,576	7,000	11	51,902	94,380	19	90,478	101,380
United States & Australia Steamship Co	9	41,028	52,646	10	45,331	40,371	19	86,359	93,017
Dollar Line	11	49,069	56,216	7	26,192	37,866	18	75,261	94,082
Panama Railroad Steamship Line	14	38,743	10,594	13	31,748	20,580	27	70,491	31,174
Norton Lilly Steamship Co	9	48,535	73,383	4	20,533	27,624	13	69,068	101,007
Tidewater Oil Co	8	43,956	.....	4	21,978	42,985	12	65,934	42,985
Standard Transportation Co	7	46,504	67,746	2	12,554	6,500	9	59,058	74,246
Moore & McCormack	7	26,833	36,957	6	25,229	31,386	13	52,062	68,343
Total, above 24 lines	569	2,815,424	2,648,031	513	2,515,881	3,218,220	1,082	5,331,305	5,866,251
Total, United States traffic	690	3,217,436	3,064,744	598	2,846,676	3,591,788	1,288	6,064,112	6,656,532

In comparison with the total number of transits, net tonnage, and cargo tonnage, it will be seen that vessels operated by the 24 steamship lines enumerated above comprised 84 per cent of the transits, and 87.9 per cent of the total net tonnage and cargo tonnage of all vessels of United States registry transiting the Canal during the year.

In number of transits and combined net tonnage, vessels of the Luckenbach Line exceeded those of any other steamship company operating vessels through the Canal. In cargo tonnage, however, vessels of the United States Steel Products Company ranked first, falling just short of a million tons. The American-Hawaiian Line was but slightly behind these two in number of transits, net tonnage, and cargo tonnage. Together, vessels of these three companies made up 33.1 per cent of the total transits, 37.4 per cent of the total net tonnage, and 39.5 per cent of the total cargo tonnage of American vessels.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended February 3:

Steamships *Cristobal*, clean, scale, and paint holds, 2 deep fresh water tanks, 2 drinking water tanks, inner bottom tanks, fore peak tank, and after peak tank; repair hatch coamings, strongbacks, and hatch fittings; renew rivets in main deck; repair chain locker bulkhead and patch hole in starboard fresh water deep tank; bore port high power cylinder, make new bull ring and 6 snap rings; bore starboard H. P. and M. P. valve chambers and make and fit new rings; caulk leaks in shell of main boilers as directed; repair fire line, baker's oven, doors of kitchen range, scuppers, etc.; make alterations for accommodations for mail sorting room and mail clerk's sleeping room, etc.; *Acajutla*, bore out ballast pump stuffing box, make and fit new neck bush and fit spare rods and buckets for same; paint purser's and assistant purser's cabins; repair cargo sheaves, scupper pipe, and hand tools; rerivet lower end of stanchion in No. 2 hold, etc.; *Madoera*, make 1 brass piston rod and bolt as patterns; *Coaxet*, repair ice machine and telemotor system; motorship *Losada*, steamships *Panama*, *Sumatra*, *Ebro*, *Solana*, and *Orca*, tug *Tavernilla*, minor repairs.

Intercoastal Traffic as Compared with Total Traffic.

In the graph below, the cargo tonnage passing through the Canal in vessels of United States registry is segregated between intercoastal cargo tonnage and cargo tonnage other than intercoastal.

It will be seen that the intercoastal tonnage shows a consistent gain throughout the year, more rapid toward the close. Every month shows a gain over the preceding month with the single exception of April.

For the month of January the intercoastal cargo tonnage totaled 200,356 long tons, and represented 55.6 per cent of the total cargo tonnage passing through the Canal under the United States flag. In December, the intercoastal cargo tonnage had increased to 623,708 cargo tons, and represented 70.8 per cent of the total cargo tonnage through the Canal in vessels of United States registry.

In cargo tonnage other than intercoastal there has not been a corresponding gain. In January, this tonnage totaled 159,926 long tons, and represented 44.4 per cent of all cargo carried by United States vessels through the Canal. In December, this tonnage totalled 257,123 tons, but represented only 29.2 per cent of the cargo carried by vessels of United States registry. In only one month, May, did the intercoastal tonnage total less than all remaining cargo tonnage other than intercoastal.

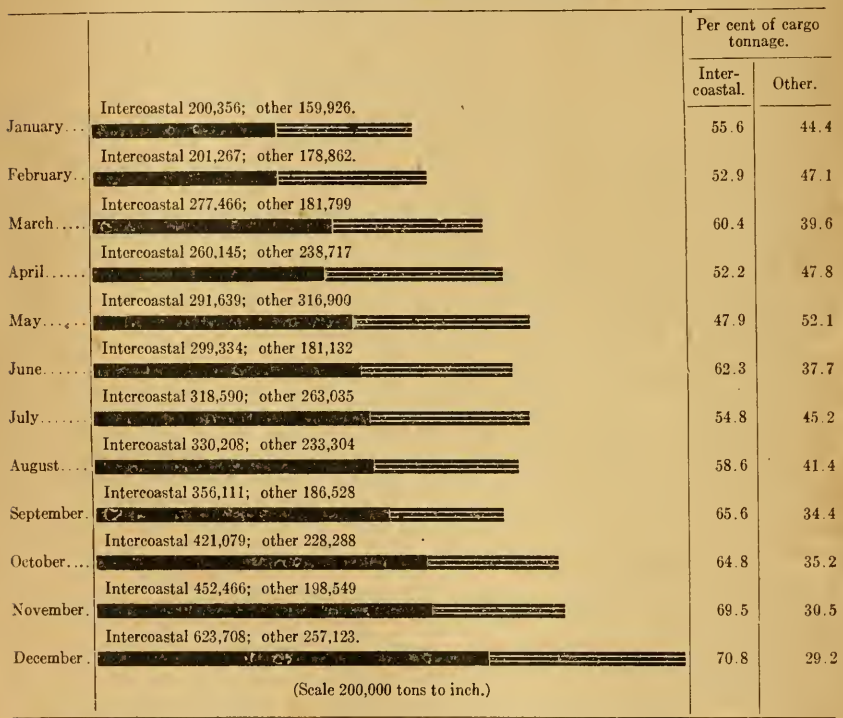
In the intercoastal cargo tonnage the month of December showed a

211 per cent increase in volume over that of January; while in cargo tonnage other than intercoastal, the percentage of increase was 61.

In the graph below is shown the total cargo tonnage passing through the Canal in vessels of United States registry, segregated between intercoastal cargo tonnage, and cargo tonnage other than intercoastal, the figures representing long tons of 2,240 pounds.

To the right of the graph is shown the percentage of intercoastal cargo tonnage to the whole, as compared with cargo tonnage other than intercoastal.

Graph Showing Cargo Tonnage Carried by Vessels of United States Registry Through the Panama Canal During 1922, by Months.



In the above graph, the amount of cargo tonnage shown as passing through the Canal in the United States intercoastal trade is taken from the monthly statement showing distribution of cargo by geographical areas rather than from the monthly statement of "traffic by trade routes." In the latter statement, the majority of vessels shown as engaged in trade between the east coast of the United States and the west coast of Canada, load and discharge the greater percentage of their cargoes on the west coast at United States ports, but in a statement compiled by trade routes all of their cargo is necessarily shown under the "East Coast of United States-West Coast of Canada" routing.

Panama Canal Traffic During Calendar Year 1922 by Nationality of Vessels.

Commercial traffic through the Panama Canal during the calendar year 1922 showed an increase over the preceding calendar year of 7.7 per cent in number of transits, 13.6 per cent in net tonnage, Panama Canal measurement, 11.6 per cent in tolls, and 28.1 per cent in cargo tonnage.

As in 1921, vessels of United States registry exceeded those of any other nationality, and likewise vessels of British, Japanese, and Nor-

wegian registry ranked second, third, and fourth, respectively, as in the preceding year. The relative proportion of shipping of each nationality remained practically the same as for the preceding year.

The following statement shows the commercial traffic through the Canal during the year, segregated according to the registry of vessels:

Nationality.	Number of transits.	TONNAGE.				Tolls.	Cargo tonnage.
		United States equivalent.	Panama Canal net.	Registered			
				Gross.	Net.		
Argentinian	1	(1)	(1)	(1)	(1)	$1,240.00	.....
Belgian	3	11,167	13,524	15,810	9,908	13,958.75	23,952
British	968	3,350,578	4,141,894	5,237,642	3,286,927	4,037,653.92	4,053,501
Chilean	55	95,820	157,657	201,785	1191,53	119,754.15	47,724
Costa Rican	1	43	45	50	35	53.75	5
Danish	54	159,017	202,893	235,259	150,795	191,467.69	257,286
Dutch	72	228,184	319,350	360,810	224,404	285,043.30	324,545
French	54	197,104	221,130	282,202	177,934	240,766.15	206,890
German	62	169,542	219,018	264,040	161,039	211,240.37	222,898
Greek	2	5,323	7,338	8,736	5,397	6,653.75	14,238
Italian	21	67,654	84,085	113,424	68,133	84,395.05	56,320
Japanese	156	638,639	723,402	947,392	627,300	797,062.37	951,888
Norwegian	131	386,250	473,058	594,803	375,899	461,676.82	593,550
Mexican	4	3,182	4,163	5,753	3,643	4,008.87	.....
Panaman	13	25,352	28,665	37,535	23,746	28,606.06	23,320
Peruvian	69	101,172	188,761	296,902	155,977	126,158.55	84,704
Spanish	6	15,226	17,408	25,826	16,684	15,811.93	17,462
Swedish	37	86,932	126,070	139,368	102,936	108,543.80	175,741
United States	1,288	4,834,586	6,064,112	7,547,810	4,800,203	5,839,312.49	6,656,532
Totals, 1922	2,997	10,375,771	12,992,573	16,315,147	10,310,113	12,573,407.77	13,710,556
Totals, 1921	2,783	9,303,687	11,435,811	14,451,830	9,225,519	11,261,098.80	10,707,005

[1] Cruiser with displacement tonnage of 2,480.

As related to the total traffic, the classification by nationality is more clearly shown in the following tabulation in which percentage figures are substituted for actual figures.

In this tabulation, traffic by nationality is shown only for those countries whose vessels made 50 or more transits during the calendar year, the remainder being grouped under "other:"

Nationality.	Number of transits.	Tonnage.				Tolls.	Cargo tonnage.
		United States equivalent.	Panama Canal net.	Registered			
				Gross.	Net.		
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
United States	43.0	46.6	46.7	46.3	46.6	46.4	49.3
British	32.3	32.3	31.9	32.1	31.9	32.1	29.6
Japanese	5.2	6.1	5.6	5.8	6.1	6.3	6.9
Norwegian	4.4	3.7	3.6	3.6	3.6	3.7	4.3
Dutch	2.4	2.2	2.5	2.2	2.2	2.3	2.4
Peruvian	2.3	1.0	1.4	1.8	1.5	1.0	0.6
German	2.1	1.6	1.7	1.6	1.5	1.7	1.6
Chilean	1.8	0.9	1.2	1.2	1.1	1.0	0.3
French	1.8	1.9	1.7	1.7	1.7	1.9	1.6
Danish	1.8	1.5	1.6	1.4	1.5	1.5	1.9
All other	2.9	2.2	2.1	2.3	2.3	2.1	1.5
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0

From the above, it will be seen that vessels of British and American registry made up more than three-fourths of the total traffic through the Canal. Adding vessels of Japanese and Norwegian registry, the combined shipping under these 4 flags comprises a little more than seven-eighths of the total, except as regards number of transits.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 3, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Santa Gertrudis	27	13.35	28	6.30	28	14.27	28	15.18	British	San Antonio Steamship Co.	238.6	36.6	16.3	Puerto Mexico	Guayamas	Case oil, grease	1,091	1,492	835
Canadian Volunteer	27	18.50	28	6.35	28	15.44	28	18.07	British	Canadian Government	320.0	44.2	21.5	Guantanamo	Vancouver	Nails, rum, sugar	3,355	3,224	2,008
Cacique	27	18.15	28	7.55	28	16.42	28	21.35	American	Grace Line	394.2	52.3	14.6	Baltimore	Iquique	Ballast	.....	6,652	4,913
Robin Adair	27	22.47	28	8.28	28	17.36	28	21.30	American	Seas Shipping Co.	424.8	55.2	27.0	New York	Seattle	Steel, general	8,837	7,470	5,529
Charles H. Cramp	28	7.20	28	9.2[illegible]	28	18.28	29	4.15	American	Argonaut Steamship Corporation	404.0	53.9	28.0	Baltimore	San Francisco	General, steel	7,750	6,755	4,750
Venezuela	27	0.20	28	9.32	28	19.10	29	13.35	American	Pacific Mail Steamship Co.	380.0	48.6	24.0	Baltimore	San Francisco	General	3,165	6,033	4,353
Sunbeam	28	9.23	28	10.40	28	19.58	29	3.30	American	Sun Oil Co.	429.3	59.2	18.0	Chester	Los Angeles	Ballast	.....	7,701	5,472
William A. McKenney	28	7.45	28	12.05	28	20.52	28	22.02	American	Crowell & Thurlow	395.0	55.0	24.6	Baltimore	Los Angeles	General	6,982	6,532	4,528
Alaskan	28	21.35	29	6.37	29	18.34	29	19.36	American	American-Hawaiian Line	470.1	57.2	24.6	New York	Los Angeles	General	8,300	9,250	6,861
Kofuku Maru	28	0.58	29	7.30	29	19.25	29	22.0[illegible]	Japanese	Kokusai Kisen Kaisha	385.0	51.0	24.0	New York	Yokohama	General	5,341	5,920	4,409
David McKelvy	29	9.23	29	9.45	29	20.10	29	21.19	American	Tidewater Oil Co.	430.0	59.2	19.0	New York	Los Angeles	Ballast	.....	7,629	5,393
Zenon	28	13.55	29	10.55	29	20.58	29	22.00	French	French Line	423.6	55.0	18.2	Antwerp	San Francisco	General	1,853	6,982	4,934
Empress of France	29	8.45	30	6.25	30	14.19	30	21.41	British	Canadian Pacific Line	610.0	72.0	31.10	New York	San Francisco	Passengers only	.....	19,292	11,968
Thorgerd	29	15.07	30	7.20	30	16.00	30	20.46	Norwegian	B. Bjornstad & Co.	251.0	43.0	13.0	Habana	San Miguel	Ballast	.....	2,706	1,762
Edward Luckenbach	29	16.45	30	8.10	30	17.11	30	18.14	American	Luckenbach Line	436.0	57.0	30.0	Philadelphia	Los Angeles	General	8,238	8,543	6,427
Huguenot	29	21.28	30	8.52	30	19.11	30	20.10	American	McAllister Brothers (S. B.)	434.0	56.0	21.0	Galveston	Los Angeles	Ballast	.....	7,587	5,247
Robin Gray	30	12.55	30	13.10	30	20.40	31	2.20	American	Robin Line	424.5	55.2	27.6	Baltimore	Bellingham	General	9,462	7,472	5,542
Bryon D. Benson	30	13.40	31	6.37	31	14.19	31	15.20	American	Tidewater Oil Co.	465.0	60.0	21.6	New York	Los Angeles	Ballast	.....	8,546	6,095
Ribera	30	14.50	31	7.22	31	15.10	31	16.15	British	F. Bolton & Co.	400.0	50.0	15.0	Pensacola	Arica	Ballast	.....	5,469	4,042
Sciota[1]	27	14.31	31	.....	31	14.10	.....	.....	American	U. S. Navy	155.0	30.0	.....	Cristobal	Balboa	.....	.....	.....	.....
Paparoa	30	7.17	31	8.10	31	16.47	31	23.24	British	New Zealand Shipping Co.	430.0	54.2	30.0	London	Wellington	General	5,871	8,209	6,121
Oak Branch	30	17.40	31	9.00	31	17.41	31	18.45	British	F. and W. Ritson	385.0	49.9	20.0	Liverpool	La Libertad	General	3,700	5,209	4,031
Canadian Importer	30	14.10	31	9.39	31	19.15	30	20.30	British	Canadian Government	399.0	52.0	14.9	Antilla	Vancouver	Ballast	.....	5,891	4,186
Edgemoor[2]	30	17.05	31	10.40	31	20.08	31	21.16	American	U. S. Army	409.6	54.2	17.0	New York	Honolulu	Army supplies	2,419	.....	.....
Gold Shell	31	12.00	31	12.31	31	20.58	1	5.50	American	Gold Shell Steamship Co.	411.6	53.4	20.6	Bordeaux	Los Angeles	Ballast	.....	6,151	4,285
Benjamin Brewster	31	6.20	31	13.05	31	21.50	31	22.45	American	Standard Oil Co.	411.6	53.2	20.8	Habana	Talara	Ballast	.....	6,177	4,244
Sumatra	31	6.35	1	7.23	1	13.54	1	16.00	Dutch	Nederland Steamship Co.	393.6	51.3	14.0	Amsterdam	Mejillones	Ballast	.....	5,945	4,256
Santa Ana	31	12.21	1	7.40	1	14.55	1	16.45	American	Grace Line	360.2	51.6	21.0	New York	Valparaiso	General	1,643	5,776	4,081
Cordelia	1	6.55	1	8.1	1	15.55	5	21.25	British	C. T. Bowring & Co.	420.3	54.0	16.0	Barrow	San Francisco	Ballast	.....	6,837	5,043
Tresithney	1	7.10	1	9.1	1	16.46	1	17.53	British	Hain Steamship Co.	472.5	59.3	25.0	New York	Brisbane	General	.....	7,903	8,710	6,216

[1] Tug. [2] Transport.

Ohioan	1	7.30	1	9.35	1	18.05	1	23.50	American	American-Hawaiian Line	407.0	53.7	25.0	Philadelphia	Los Angeles	General	6,270	7,112	4,896
Ebro	1	5.23	2	6.22	2	13.55	2	16.35	British	Pacific Steam Navigation Co	450.0	57.8	24.0	New York	Valparaiso	General	1,852	9,151	6,227
Madoera	1	4.02	2	7.25	2	17.13	2	18.35	Dutch	Netherland Steamship Co	480.0	60.0	22.3	Amsterdam	Antofagasta	Ballast		9,550	6,620
Samuel Q. Brown	1	22.17	2	8.15	2	15.20	2	16.15	American	Tidewater Oil Co	424.4	58.2	19.0	New York	Los Angeles	Ballast		7,333	5,246
Luise Nielsen	2	2.42	2	9.00	2	17.50	3	0.55	Norwegian	B. Stolt Nielsen & Co	409.9	54.0	16.0	New York	Tocopilla	Ballast		6,617	4,834
Agwimex	2	6.10	2	9.25	2	18.44	3	4.54	American	Atl. Gulf & W. I. S. S. Co	430.5	65.0	20.0	Boston	Los Angeles	Ballast			
Agwisea	2	6.35	2	10.25	2	19.28	3	3.30	American	Atl. Gulf & W. I. S. S. Co	468.3	62.7	21.0	Port Arthur	Los Angeles	Ballast		10,1[illegible]	7,388
Tjibesar	2	8.35	2	11.00	2	20.30	3	14.44	Dutch	Java China Japan Line	519.0	63.0	20.0	Amsterdam	Calcta Colosa	Ballast		11,700	8,274
Great City	2	9.22	2	11.55	2	21.35	2	22.58	British	W. R. Smith & Sons	433.9	56.9	25.6	Middlesboro	San Francisco	Iron, coke, bricks	7,921	7,029	5,478
Sheafmead	2	16.51	3	6.55	3	15.24	3	16.45	British	W. A. Souter & Co	380.0	53.0	16.0	Ardrossan	Taltal	Ballast		5,326	4,008
Darien	2	15.40	3	6.09	3	15.20	3	19.36	Panaman	O'Barrio & Co	92.0	23.0	7.0	Cristobal	La Palma	Ballast		169	50
Slavic Prince	3	3.34	3	7.35	3	16.15	4	15.20	British	Prince Line, Ltd	448.5	57.2	23.9	New York	Iquique	General	7,000	9,139	6,759
Sudbury	3	4.10	3	8.22	3	17.04	3	18.03	American	Shawmut Steamship Co	384.8	51.2	22.6	Charleston	Portland	General	5,131	5,571	4,033
Eagle	3	7.00	3	9.22	3	17.52	3	18.45	American	Standard Transportation Co	410.0	56.0	24.3	Boston	Seattle	General	5,615	8,243	6,266
Dochra	3	12.03	3	12.10	3	19.43	4	0.20	American	Barber Line	380.0	51.0	21.0	Baltimore	Seattle	General	4,450	5,158	3,813

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Ammon	27	14.30	28	7.00	28	15.12	28	17.35	German	Kosmos Line	438.0	57.0	23.0	Valparaiso	Hamburg	General	7,524	7,341	5,200
H. M. Storey	27	17.40	28	7.53	28	15.40	28	16.40	American	Standard Oil Co	500.0	68.2	29.6	Los Angeles	New York	Oil	15,400	11,224	7,849
Commercial Trader	28	1.00	28	8.30	28	16.48	28	16.48	American	Honolulu Steamship Line	399.0	51.0	26.5	Port Angeles	New York	General, lumber	5,950	6,190	4,455
Yaye Maru	28	7.35	28	8.40	28	18.35	28	19.50	Japanese	Kokusai Kisen Kaisha	425.0	23.8	27.6	Maroran	United King	Wheat	9,287	6,798	5,174
Junin	28	6.40	28	9.54	28	19.25	29	11.26	British	Pacific Steam Navigation Co	391.5	50.0	24.3	Valparaiso	London	General	5,288	5,930	4,395
Ares	28	9.55	28	10.35	28	20.50	1	9.55	Dutch	Royal Netherlands W. I. Mail	340.0	48.0	22.6	Bahia	Cristobal	Nitrate, general	4,745	4,385	3,195
G. Harrison Smith	27	19.30	28	14.21	29	14.12	29	14.12	British	International Petroleum Co	550.3	72.0	33.0	Cruz Grande	New York	Iron ore	20,000	15,476	11,102
Satsuma	28	18.25	29	6.51	29	14.45	29	15.58	American	Barber Line	370.3	48.7	24.6	Darien	Philadelphia	General	4,682	5,370	3,810
Annam	29	3.15	29	8.30	29	14.40	29	18.59	Danish	East Asiatic Co	410.0	55.0	26.9	Vancouver	Copenhagen	General	7,946	7,067	5,286
Cape Town	27	6.00	29	8.57	29	14.40	31	9.17	British	British Navy	450.0	42.0	14.5	San Pedro	Bermuda ports				
Magellan	29	6.00	29	9.54	29	18.45	30	11.25	British	Pacific Steam Navigation Co	461.6	59.3	26.0	Corral	London	Nitrate, general	8,727	8,817	6,063
Terrier	29	6.00	29	10.06	29	19.35	29	21.00	Norwegian	Du Pont	400.0	52.0	34.6	Iquique	New Orleans	Nitrate	8,000	5,639	4,161
Rimutaka	28	20.15	29	11.24	29	21.10	30	4.17	British	New Zealand Shipping Co	457.0	59.0	25.0	Wellington	London	General	5,300	9,159	6,883
Marie Maersk	29	7.00	29	11.19	29	21.50	30	0.26	Danish	A. P. Moller	360.0	51.2	25.10	Tocopilla	Tampa	Nitrate	7,194	4,971	3,428
Kasenga	29	7.30	29	12.57	29	22.54	29	23.20	British	Ellerman & Bucknall	456.0	58.0	26.0	Vancouver	Hull	General	9,278	7,766	5,741
Grelbank	29	2.00	29	7.58	29	16.32	30	2.14	British	G. J. Gould & Co	399.5	52.2	25.6	Antofagasta		Nitrate	7,018	5,730	3,986
Marore	29	10.10	29	14.29	30	13.35	30	14.40	American	Ore Steamship Co	550.2	75.2	32.6	Cruz Grande	Baltimore	Iron ore	20,000	15,551	4,297
Ucayali	28	18.15	30	7.04	30	14.09	....	....	Peruvian	Peruvian Line	374.7	46.3	18.0	Callao	Cristobal	General	1,176	4,466	2,405
Munsomo	29	16.15	30	7.56	30	15.11	30	15.11	American	Munson Line	327.2	46.2	21.4	Gray's Harbor	New York	Lumber	3,500	3,750	2,728
Lima	29	17.30	30	8.39	30	16.33	30	19.55	Swedish	Johnson Line	364.0	51.5	24.5	San Francisco	Stockholm	General	6,000	5,304	3,900
Republic	29	22.00	30	9.08	30	17.55	30	18.09	American	Chile Steamship Co	345.1	49.5	25.0	Antofagasta	New York	Nitrate, copper	4,200	4,393	3,006
Acajutla	29	23.00	30	9.37	30	16.45	....	....	British	Pacific Steam Navigation Co	215.7	33.5	16.2	Champerico	Cristobal	General	877	1,273	706
Arizonan	30	4.00	30	10.58	30	19.28	30	19.28	American	United American Lines	400.1	57.2	31.6	Tacoma	Hamburg	General	11,300	9,158	6,970
Jan Van Nassau	30	12.20	30	13.30	30	21.07	31	12.45	Dutch	Royal Netherland W. I. Mail	361.6	44.2	32.6	Antofagasta	Havre	Nitrate	3,989	3,919	2,632
Ecuador	30	6.38	30	14.50	30	22.00	31	18.00	American	Pacific Mail Steamship Co	380.6	48.7	24.0	San Francisco	New York	General	3,000	5,923	4,178
Bessemer City	30	20.10	31	6.59	31	14.35	1	6.15	American	Norton Lilly & Co	442.2	56.2	24.0	Everett	New York	General	6,000	7,611	5,450
Floridian	31	0.28	31	7.45	31	16.17	31	16.17	American	United American Lines	415.0	53.7	23.0	Portland	New York	General	5,381	7,273	5,105
Steel Scientist	31	6.45	31	8.06	31	17.00	31	17.00	American	Isthmian Line	424.2	56.2	25.6	Honolulu	Boston	General	7,079	7,611	5,454
Tottori Maru	31	11.00	31	11.57	31	20.18	1	7.15	Japanese	Nippon Yusen Kaisha	422.5	56.0	22.6	Hongkong	New York	General	7,969	6,441	4,667
Nitrotis	31	12.20	31	13.26	31	22.50	1	1.45	German	Kosmos Line	411.8	50.7	25.0	Corral	Hamburg	Nitrate	6,072	6,652	4,704

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Toco	31	17.00	31	6.53	31	14.22	1	15.55	British	Chile Steamship Co	440.8	56.0	26.6	Tocopilla	Tampico	Ballast	.....	7,693	4,885
Wabash	31	22.30	31	8.01	31	16.17	1	17.05	American	North Atlantic & West. S. S. Co.	381.0	49.9	23.6	Seattle	Portland, Me.	General	4,991	5,825	4,152
George Allen	1	18.10	2	7.01	2	15.28	2	15.28	American	Gaarland Steamship Co	385.3	51.2	24.2	Seattle	Philadelphia	General	4,015	6,224	4,465
Darien	1	20.00	2	7.08	2	15.40	3	6.09	Panaman	Anglo-American S. S. Agency	92.0	26.0	7.0	Buenaventura	Cristobal	Coffee	88	169	50
Atto	1	18.05	2	7.47	2	16.21	2	17.15	German	Roland Line	360.0	51.0	23.6	Corral	Hamburg	General	5,565	4,835	3,400
Hertford	1	23.48	2	8.24	2	17.00	2	19.15	British	Federal Steam Navigation Co	520.7	54.0	25.0	Sydney	New York	General	8,150	12,384	8,683
Standard	2	13.57	2	14.44	2	23.10	2	23.10	American	Standard Oil Co	523.0	69.0	30.6	San Pedro	New York	Oil	17,570	12,170	9,012
Nietheroy	2	12.15	3	6.53	3	14.47	3	14.47	British	Royal Mail Steam Packet Co	450.0	58.0	25.0	Seattle	London	General	5,204	8,874	6,558
Sciota[1]	...	.....	3	7.02	3	14.40	....	.....	American	U. S. Navy	155.0	30.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Canadian Conqueror	3	9.45	3	7.56	3	16.42	3	18.20	British	Canadian Government	400.0	33.0	15.0	Auckland	Halifax	General	2,070	5,951	4,126
J. W. Van Dyke	3	2.30	3	8.30	3	17.03	3	17.03	American	Atlantic Refining Co	435.0	56.0	28.0	Los Angeles	Philadelphia	Oil	10,000	7,460	5,215
Nordhvalen	3	5.00	3	9.29	3	18.35	3	19.45	Danish	Wessel Duval & Co	320.0	41.8	23.3	Iquique	Cristobal[2]	Nitrate	4,908	3,547	2,581
Walter A. Luckenbach	3	8.55	3	10.31	3	18.22	3	18.22	American	Luckenbach Line	446.5	56.1	27.6	Portland	New York	General	7,050	8,785	6,567

[1] Tug. [2] For orders. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
January 28	Abangarez	United Fruit Co	New Orleans via Habana.
January 29	Amassia	Hamburg American Line	Puerto Barrios.
January 29	Perou	French Line	Havre via wayports
January 30	Empress of Britain	Canadian Pacific Line	New York via wayports.
January 30	San Bruno	United Fruit Co	Boston via Habana.
January 30	Cristobal	Panama Railroad Steamship Line	Norfolk.
January 31	Cartago	United Fruit Co	New Orleans via Habana.
January 31	Tivives	United Fruit Co	New York via Kingston.
February 1	Carrillo	United Fruit Co	Colombian ports.
February 1	Abangarez	United Fruit Co	Bocas del Toro.
February 2	Panama	Panama Railroad Steamship Line	New York via Haiti.
February 2	Toloa	United Fruit Co	New York via wayports.
February 3	Bayano	Elders & Fyffes, Ltd	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
January 28	Megantic	White Star Line	La Guayra.
January 29	Amassia	Hamburg-American Line	Cartagena.
January 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
January 29	Abangarez	United Fruit Co	Bocas del Toro.
January 31	San Bruno	United Fruit Co	Boston via Port Limon.
January 31	Empress of Britain	Canadian-Pacific Line	La Guayra and West Indies
January 31	Cartago	United Fruit Co	New Orleans via wayports.
February 1	Tivives	United Fruit Co	Colombian ports.
February 1	Carrillo	United Fruit Co	New York via Kingston.
February 1	Abangarez	United Fruit Co	New Orleans.
February 2	Perou	French Line	Havre via wayports.
February 3	Toloa	United Fruit Co	New York via wayports.
February 3	Bayano	Elders & Fyffes, Ltd	Kingston.

PORT OF BALBOA.

January 28	Seiyo Maru	Toyo Kisen Kaisha	Hongkong.	January 30	Seiyo Maru	Toyo Kisen Kaisha	Valparaiso.

*Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., February 14, 1923. No. 27.

United States Tariff Charges Do Not Apply to Work Done in Shops of The Panama Canal.

THE PANAMA CANAL, EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., February 2, 1923.

NOTICE TO STEAMSHIP LINES:

Attention is again invited to the fact that the provisions of the present United States tariff law, levying a duty of 50 per cent on repairs made to American vessels in foreign ports, *are not applicable* to work done in the shops of The Panama Canal.

The decision of the Secretary of the Treasury to this effect puts work done on such ships in Canal shops on exactly the same basis as shop work done in the Continental United States. There is no levy of duty on such work.

This matter is emphasized because in spite of previous publicity it does not appear to have been fully understood by all concerned.

It is requested that this be brought to the attention of all concerned, in the home office and agencies.

JAY J. MORROW, *Governor.*

Traffic by Trade Routes, January, 1923.

A classification of the traffic through the Canal, segregated among the principal trade routes, is shown on pages 341 to 344 of this issue.

It will be seen that the United States intercoastal traffic, in point of net tonnage and cargo tonnage, comprises slightly more than one-third of the total traffic through the Canal.

Combining the intercoastal traffic in both directions, January transits numbered 108, with a combined net tonnage of 561,485, Panama Canal measurement, and cargo tonnage of 561,996 long tons. The combined intercoastal traffic for January a year ago was 48 transits, with a combined net tonnage of 247,849, Panama Canal measurement, and cargo tonnage of 206,275 long tons.

Included in the intercoastal traffic for January, 1923, were 36 tank ships with an aggregate net tonnage of 232,401 Panama Canal measurement.

Another trade route showing greatly increased traffic over a year ago is that between Europe and the west coast of Canada. Most of the vessels engaged in this trade load and discharge part of their cargoes at United States ports. Much wheat is being shipped from Canada at the present time, however, and during January, 9 vessels transited the Canal eastbound with full cargoes from Canadian ports. Combined wheat shipments from Canada passing through the Canal during January totaled 93,442 tons.

The combined net tonnage routed to the west coast of South America during January, 1923, was 239,874 tons, Panama Canal net measurement, as compared with 112,782 tons for January a year ago. Cargo tonnage routed to South America totaled 100,741 tons as compared with 74,514 tons a year ago.

Net tonnage of vessels routed from the west coast of South America and transiting the Canal during January, 1923, totaled 233,829 tons, Panama Canal net measurement, as compared with 100,846 tons for January, 1922. Cargo tonnage routed from South America totaled 340,865 tons, as compared with 90,975 tons for January, 1922.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 17, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Havre Maru	3	14.10	4	6.18	4	15.18	4	16.45	Japanese	Osaka Shosen Kaisha	407.3	50.10	25.0	New York	Singapore	(?)	5,801	6,234	4,496
Coaxet	2	16.45	4	7.20	4	16.12	4	17.25	American	Barber Line (S. B.)	401.0	53.0	25.0	Port Arthur	Taku Bar	Kerosene	7,289	6,597	4,778
Delft	3	2.50	4	8.04	4	17.06	4	18.00	Dutch	Royal Netherlands W. I. Mail Co	370.0	50.0	19.9	Hamburg	Corral	General	2,747	5,862	4,393
Tacoma[1]	4	6.57	4	8.10	4	17.06			American	U. S. Navy	292.0	38.0	17.0	Boston	Balboa				
Spreewald[2]	4	1.54	4	9.12	4	17.59	4	19.30	German	Hamburg-American Line	399.0	51.0	18.0	Hamburg	Corral	General	2,700	6,791	4,997
Agwistone	4	4.26	4	10.05	4	18.51	5	1.14	American	Atl. Gulf & W. I. S. S. Line	500.0	68.1	18.0	Newport News	Los Angeles	Ballast		10,776	8,292
Solana	3	1.15	4	10.13	4	19.36	4	20.40	American	Pacific Mail Steamship Co	419.5	56.5	18.2	Tampico	Los Angeles	Ballast		7,043	5,041
Amersfoort	4	10.57	4	11.45	4	20.31	5	19.25	Dutch	Kon. Ned. Stoomb Maats	482.6	62.7	16.6	Rotterdam	Taltal	Ballast		9,615	6,525
Losada[2]	3	22.50	4	12.36	4	21.27	4	22.30	British	Pacific Steam Navigation Co	406.1	54.2	18.0	Hamburg	Corral	General		2,867	7,221	4,844
Hannah	4	15.30	5	6.22	5	14.20	5	17.35	British	Rahtkens Steamship Co	350.4	50.0	13.0	Newcastle	Napier	Ballast			4,485	3,365
William Perkins	5	9.15	5	9.35	5	19.53	6	7.40	American	Garland Steamship Corporation	409.0	54.0	23.0	Norfolk	Los Angeles	General		6,081	6,757	4,802
Eastern Sea	4	17.05	5	10.35	5	20.38	5	21.20	American	U. S. & Australia Line (S. B.)	384.0	51.1	21.6	New York	Brisbane	General		7,010	5,934	4,415
Chuky	5	14.40	6	6.37	6	16.07	6	17.30	British	Chile Steamship Co	440.0	53.0	23.3	Tampico	Tocopilla	Crude oil		9,475	7,636	4,942
Ramapo[3]	6	0.54	6	7.45	9	15.46			American	U. S. Navy	497.10	60.0	27.6	Port Arthur	Balboa	Fuel oil		9,942		
Ucayali	1-30	14.09	6	10.50	6	17.55	6	22.09	Peruvian	Peruvian Line	374.0	46.0	18.6	Cristobal	Callao	General		449	4,466	2,405
Acajutla	1-30	16.45	6	10.30	6	18.00	6	21.45	British	Pacific Steam Navigation Co	215.7	33.0	15.5	Cristobal	Champerico	General		849	1,273	706
Manavi	1-19	17.44	6	11.25	6	18.53	6	23.00	British	Pacific Steam Navigation Co	216.0	35.1	13.0	Cristobal	Guayaquil	General		479	1,357	884
Minnesotan	6	12.28	6	12.40	6	19.48	7	0.48	American	American-Hawaiian Line	407.0	53.7	25.0	Boston	Los Angeles	General		6,500	7,150	4,913
Jacob Luckenbach	5	23.55	6	13.10	6	21.08	6	22.25	American	Luckenbach Line	414.6	53.7	28.6	Mobile	Seattle	General		7,400	7,315	5,270
Swiftwind	6	20.30	7	6.25	7	14.37	7	17.55	American	Swiftsure Oil Transport	464.6	6.0.0	17.0	Fall River	Los Angeles	Ballast			8,473	5,997
Bjornstjerne Bjornson	6	22.03	7	8.29	7	18.43	7	22.09	Norwegian	Olaf Orvig	410.0	54.0	15.0	Pensacola	Mejillones	Ballast			6,304	4,752
Devolente	7	3.06	7	8.58	7	19.15	7	20.25	American	Walker & Daly (S. B.)	435.0	56.0	20.0	New York	Los Angeles	Ballast			7,613	5,312
New Britain	7	3.38	7	9.49	7	21.15	8	10.38	American	Great Northwestern S. S. Corp	386.0	52.0	22.0	Jacksonville	Los Angeles	General		5,800	5,684	4,082
Columbia	7	6.25	7	10.20	7	21.11	7	22.40	American	N. O. & S. A. S. S. Co	238.7	41.3	20.8	New Orleans	San Francisco	Ballast			2,339	1,546
Julia Luckenbach	6	23.43	7	10.36	7	22.06	7	23.28	American	Luckenbach Line	436.0	57.0	26.8	Boston	Los Angeles	General		6,782	8,543	6,402
William G. Warden	7	10.50	7	12.00	7	22.53	7	23.51	American	Standard Oil Co	500.0	68.0	19.6	New York	Los Angeles	Ballast			10,503	8,409
Podah[4]			8	6.15	8	16.45			American	L. V. Stevens	39.0	10.0	4.0	Cristobal	Los Angeles	Ballast			13	8
Hatipara	7	20.49	8	6.45	8	14.43	8	17.40	British	British India Steam Nav. Co	445.0	58.0	28.7	Galveston	Adelaide	General		8,884½	8,341	6,010
Trontolite	7	19.23	8	7.35	8	15.53	8	17.10	British	Imperial Oil Co	420.8	57.0	20.0	Halifax	Talara	Ballast			7,345	5,051
Atlanterhavet	8	5.57	8	8.15	8	16.51	8	21.35	Danish	Atlanterhavet Steamship Co	378.0	52.0	12.0	New York	Iquique	Ballast			5,814	4,490
Willfaro	8	6.24	8	9.20	8	17.35	8	18.55	American	Williams Line	386.8	52.2	23.0	New York	Seattle	Steel, general		4,261	5,684	4,113
Mary Luckenbach	8	6.40	8	9.25	8	18.21	9	1.15	American	Luckenbach Lne	410.0	54.0	20.0	Mobile	Los Angeles	Manf. goods		1,260	6,500	4,511
Lake Frances	6	7.10	8	10.2	8	20.00	8	21.35	American	Pacific Securities Co	252.0	43.5	18.0	Freeport	San Francisco	Sulphur		2,092	21,46	1,363

[1] Cruiser. [2] Motor ship. [3] Tanker. [4] Yacht.

Agwihavre	8	10.40	8	11.05	8	19.12	9	8.35	American	Agwihavre Steamship Co	490.0	66.0	20.0	Boston	Los Angeles	Ballast		9,394	6,436
Bawean	9	6.45	9	8.20	9	18.42	10	11.58	Dutch	Nederland Steamship Co	420.0	54.0	16.0	Amsterdam	Tocopilla	Ballast		6,573	4,661
City of Melbourne	9	9.30	9	9.35	9	20.06	9	21.17	British	Ellerman Hall Line	412.0	56.0	24.3	Norfolk	Yokohama	General	6,043	6,799	4,763
Maine	9	10.30	9	10.45	9	20.33	11	2.53	American	Frank V. Barnes	402.0	52.0	26.0	New York	San Francisco	General	8,150	6,936	4,998
Balboa	5	23.55	10	6.24	10	13.35	10	14.50	Colombian	Compania Costancia Colombiana	190.0	29.0	11.5	Cristobal	Buenaventura	General	1	737	335
Laura C. Hall	25	22.25	10	6.15	10	13.59	11	10.29	British	Pacific Metals Corporation	81.0	25.0	9.0	Cristobal	Buenaventura	General	19	132	72
Fairfield City	9	11.53	10	7.28	10	14.57	10	16.04	American	U. S. Steel Products Co	424.0	56.0	27.2	Baltimore	San Diego	General	8,462	7,611	5,450
Sciota[5]	3	14.40	10	7.45	10	13.46	10	16.42	American	U. S. Navy	155.0	30.0		Cristobal	Balboa				
William Rockefeller	9	19.58	10	8.15	10	16.11	10	17.05	American	Standard Oil Co	554.9	75.3	24.0	Baltimore	Los Angeles	Ballast		14,785	10,313
Dillwyn	10	6.18	10	9.00	10	16.58	10	17.57	American	Walker & Daly (S. B.)	435.0	55.0	19.0	New York	Los Angeles	Ballast		7,441	5,180
Iowa[6]	10	9.10	10	9.40	10	18.02			American	U. S. Navy				Guantanamo	Balboa				
Contocook[5]	10	9.10	10	9.45	10	18.02			American	U. S. Navy				Guantanamo	Balboa				
Prometheus[7]	10	9.14	10	10.45	10	18.53			American	U. S. Navy	450.0	60.0	22.0	Guantanamo	Balboa	Naval supplies			
El Montecillo	10	6.24	10	11.05	10	19.52	10	21.30	Spanish	Compania Gen. de Navegacion	330.0	48.10	13.0	Las Palmas	Iquique	Ballast		34,64	2,310
Newport	5	17.40	10	11.45	10	20.1[illegible]	11	2.30	American	Pacific Mail Steamship Co	326.0	38.0	17.8	Cristobal	San Francisco	General	1,468	3,173	2,163
Peursum	10	6.48	10	11.55	10	20.4[illegible]	11	1.20	Dutch	Vinke & Co	280.0	40.0		New Orleans	Talcahuano	General	2,371	2,713	1,867

[5] Tug. [6] Obsolete battleship. [7] Supply ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

[8] Oil, sulphate ammonia, machinery, tobacco leaf, car couplers, starch, and rosin.

Chattanooga City	3	15.00	4	6.57	4	14.06	4	14.06	American	Isthmian Steamship Co	424.2	56.2	25.0	Vancouver	New York	Lumber, copper	7,050	7,611	5,450
Kentuckian	3	23.00	4	8.03	4	16.04	4	16.04	American	United American Lines	414.5	53.7	27.0	Seattle	Boston	General	6,358	7,049	4,941
Amazonas	2	17.45	4	8.36	4	16.58	4	20.30	Peruvian	Peruvian Lines	350.0	42.5	22.0	Callao	St. Michael	Sugar	3,600	3,545	2,382
Santa Rosalia	4	9.15	4	10.00	4	18.04	4	20.05	American	Isthmian Steamship Co	406.0	52.6	22.5	Mejillones	Wilmington	Nitrate	7,973	5,899	4,443
Point Lobos	4	9.30	4	10.43	4	18.09	4	18.09	American	Swayne & Hoyt	280.0	44.0	18.0	San Francisco	Tampico	General, lumber	3,100	2,895	1,967
Mexico[9]	([10])	13.15	5	7.00					British	S. Pearson & Co	250.0	41.0	12.6	Salina Cruz	London	Ballast		1,695	247
Easterner	4	23.00	5	7.43	5	15.28	5	22.45	American	United States & American Line	385.0	51.0	17.0	Melbourne	Boston	General	1,735	5,945	4,561
Newport	4	16.45	5	10.14	5	17.40	10	11.45	American	Pacific Mail Steamship Co	326.0	39.2	23.9	San Francisco	Cristobal	General	1,669	3,173	2,163
Santa Veronica	5	4.30	5	10.15	5	17.36	5	17.36	American	Isthmian Steamship Co	251.0	43.6	23.0	Anacortes	New York	Lumber	2,040	2,123	1,740
Santa Luisa	5	11.50	5	12.52	5	19.10	5	23.56	American	Grace Line	360.2	51.6	25.0	Talcahuano	New York	General	3,094	5,694	3,975
Chateau Thiery	5	12.30	5	13.09	5	20.50	7	11.03	American	U. S. Army	448.0	58.0	24.10	San Francisco	New York	Army supplies	626		
Buyo Maru	5	11.45	5	14.18	5	22.45	6	19.00	Japanese	Kokusai Kisen Kaisha	400.0	53.0	25.0	Makatea	Norfolk[11]	Phosphate	7,500	5,931	4,248
Benvenue	5	12.20	5	14.25	5	24.0[illegible]	6	9.40	British	Ben Line	360.0	46.1	19.4	Apia	Hamburg	Copra	3,935	4,173	3,011
Balboa	5	13.45	5	14.28	5	23.55	10	6.24	Colombian	Compania Costancia Colombiana	190.0	29.1	12.3	Tumaco	Cristobal	General	480	737	335
Essequibo	5	17.00	6	6.52	6	15.07	7	0.56	British	Pacific Steam Navigation Co	450.0	58.0	24.8	Valparaiso	New York	General	3,616	9,099	6,117
William Campion	5	18.00	6	7.40	6	16.38	6	16.38	American	Luckenbach Line	384.0	51.2	18.7	Portland	Mobile	General	1,795	6,327	4,433
Missourian	5	22.00	6	8.45	6	17.40	6	17.40	American	United States & American Line	445.1	59.8	29.0	Tacoma	Hamburg	General	10,000	8,567	6,020
Ryufuku Maru	5	20.00	6	9.07	6	18.13	6	18.13	Japanese	Kokusai Kisen Kaisha	385.0	51.0	25.0	Vancouver	United King	Wheat	7,385	5,919	4,400
Plum Branch	6	10.10	6	11.04	6	19.35	6	21.50	British	F. and W. Ritson	398.6	58.0	32.0	Mejillones	Liverpool	Nitrate, general	6,099	5,761	3,881
E. J. Bedford	6	12.20	6	13.15	6	21.36	6	21.36	American	Standard Oil Co	499.2	68.1	30.5	Los Angeles	Baltimore	Oil	16,000	11,020	8 122
Hamburg Maru	6	15.00	7	7.07	7	15.14	7	15.14	Japanese	Osaka Shosen Kaisha	400.0	54.5	21.0	Singapore	New York	General	6,134	6,094	4,301
Evelyn	6	16.40	7	7.53	7	16.12	7	16.12	American	Williams Steamship Co	313.6	46.1	21.3	Tacoma	New York	General	2,600	3,515	2,560
Santa Barbara	7	8.50	7	9.24	7	17.40	7	22.20	British	Grace Line	404.6	54.0	22.6	Iquique	Charleston	Nitrate	8,700	6,789	4,746
Huanchaco	7	10.20	7	11.02	7	19.14	7	20.35	American	Pacific Steam Navigation Co	390.6	50.0	24.4	Corral	Liverpool	General	5,768	5,905	4,391
President Hayes	6	22.30	7	11.47	7	20.45	7	21.45	American	Swayne & Hoyt	502.1	62.2	26.6	San Francisco	Buenos Aires	General	4,262	12,023	8,443
Nitro	7	14.03	7	15.01	7	23.14	10	6.00	American	U. S. Navy	459.8	61.1	30.6	Seattle	Norfolk	Navy supplies	412		
Ipswich	7	17.30	8	7.15	8	14.58	8	14.58	American	American-Hawaiian Line	400.7	54.2	24.0	Seattle	New Orleans	General	7,699	6,616	4,614
Homestead	8	16.30	9	6.45	9	14.47	9	14.47	American	Nawsco Line	395.5	55.0	25.5	Westport	New York	Lumber	7,000	7,285	5,256
Hoven	8	17.00	9	8.10	9	15.48	9	15.48	American	Walker & Dally	434.8	56.2	26.3	San Pedro	New York	General	9,577	7,426	5,144
Houma	8	23.45	9	8.18	9	16.3[illegible]	9	16.32	American	McAllister Brothers	434.8	56.2	26.3	Los Angeles	New York	Petroleum	9,156	7,425	5,168

[9] Dredge. [10] August 12, 1922. [11] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal		Completed transit.		Cleared for sea		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Romanstar	1	12.30	9	11.19	9	18.30	9	18.30	British	Blue Star Line	400.0	54.0	25.0	Vancouver	London	General	5,451	7,433	5,870
Mongolian Prince	9	13.10	9	12.33	9	20.30	9	22.15	British	Prince Line	421.0	56.0	24.0	Vancouver	Hull	Wheat	8,200	6,460	4,735
K. I. Luckenbach	9	11.35	9	13.14	9	22.00	10	10.10	American	Luckenbach Line	413.0	57.0	28.0	Seattle	New York	Lumber	6,000	8,552	6,237
Iowan	9	12.00	9	11.10	9	22.40	10	2.55	American	United American Lines	407.7	53.7	25.8	Los Angeles	Boston	General	6,393	7,091	5,002
Benjamin Brewster	9	13.15	9	15.04	10	1.21	10	1.21	American	International Petroleum Co	411.6	53.2	25.3	Talara	Habana	Oil	7,709	6,177	4,244
Frogner	8	18.09	9	14.21	10	0.05	10	1.15	Norwegian	Fearnley & Eger	407.1	53.8	25.6	Tocopilla	New York	Copper ore	8,484	7,010	5,310
Thorgerd	9	22.00	10	7.53	10	15.40	10	17.10	Norwegian	Munson Line	251.3	43.8	19.3	Congo River	New Orleans	Mahogany	2,000	2,706	1,762
Bethore	9	23.55	10	12.58	11	13.50	11	14.55	American	Ore Steamship Corporation	550.3	72.2	32.6	Cruz Grande	New York	Iron ore	19,450	15,476	11,102

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
February 4	Atenas	United Fruit Co	New Orleans via Habana.
February 4	Asian	Leyland Line	Liverpool via wayports.
February 4	O-2, O-5, O-7 [a]	U. S. Navy	High seas.
February 5	Cryssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.
February 5	Orca	Royal Mail Steam Packet Co	New York via wayports.
February 6	Heredia	United Fruit Co	New Orleans via Habana.
February 7	Actor	Harrison Line	Liverpool via wayports.
February 7	Metapan	United Fruit Co	New York via Kingston.
February 7	Tivives	United Fruit Co	Colombian ports.
February 8	Atenas	United Fruit Co	Bocas del Toro.
February 9	Calamares	United Fruit Co	New York via wayports.
February 9	Cryssen	Royal Netherlands W. I. Mail	Port Limon.
February 9	Buenos Aires	Spanish Line	Barcelona via wayports.
February 10	San Blas	United Fruit Co	Port Limon.
February 10	Adalia	Hamburg-American Line	Hamburg via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
February 5	Atenas	United Fruit Co	Bocas del Toro.
February 6	Asian	Leyland Line	New Orleans.
February 6	Cryssen	Royal Netherlands W. I. Mail	Port Limon.
February 6	Orca	Royal Mail Steam Packet Co	La Guayra.
February 8	Heredia	United Fruit Co	New Orleans via wayports.
February 8	Tivives	United Fruit Co	New York via Kingston.
February 8	Actor	Harrison Line	Cienfuegos.
February 8	Atenas	United Fruit Co	New Orleans.
February 9	Metapan	United Fruit Co	Colombian ports.
February 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
February 10	Calamares	United Fruit Co	New York via wayports.
February 10	Cryssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.
February 10	San Blas	United Fruit Co	Boston.

PORT OF BALBOA.

February 4	Conus	Anglo-Saxon Petroleum Co	San Pedro.
February 7	Anyo Maru	Toyo Kisen Kaisha	Valparaiso.
February 7	Darien	Obarrio & Co	Las Palmas.
February 8	Lompoc	Union Oil Co	Port San Luis.
February 10	Delrosa	General Steamship Corporation	Valparaiso.
February 10	Tustem	Struthers & Barry	San Francisco.

February 5	Conus	Anglo-Saxon Petroleum Co	San Pedro.
February 7	Anyo Maru	Toyo Kisen Kaisha	Hongkong.
February 10	Lompoc	Union Oil Co	Port San Luis.
February 10	Delrosa	General Steamship Corporation	San Francisco.

[a] Submarines.

*Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in January, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States coastwise:							
United States	63	268,767	336,039	421,962	265,049	$291,934.34	231,898
From east coast of United States to west coast of South America							
United States	11	41,683	50,716	67,391	41,414	42,616.42	14,198
British	7	27,310	34,314	43,666	26,791	26,882.54	2,026
Norwegian	3	12,931	14,605	18,400	11,491	10,638.42	.....
Danish	2	5,424	5,492	6,481	4,166	5,504.00	2,167
Dutch	1	4,334	5,000	6,917	4,390	3,600.00	.....
Chilean	1	3,512	4,705	7,310	3,976	4,390.00	865
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Totals	26	98,333	118,879	155,341	95,458	96,545.22	19,256
From Europe to west coast of South America							
British	6	20,891	26,095	32,079	20,327	26,113.75	21,794
Dutch	5	10,790	20,070	23,706	14,937	15,802.64	10,431
German	4	10,392	15,092	17,143	10,415	12,990.00	9,814
Italian	2	6,049	8,060	10,169	5,911	7,561.25	2,149
French	1	3,631	4,166	5,818	3,712	4,538.75	660
Chilean	1	3,479	4,672	7,289	3,886	4,348.75	4,698
Danish	1	2,815	3,476	4,395	2,795	3,518.75	3,000
Peruvian	1	2,516	3,084	3,829	2,441	3,145.00	4,500
Spanish	1	1,916	2,637	3,030	1,918	1,898.64	.....
Totals	22	66,479	87,352	107,458	66,342	79,917.53	57,016
From Europe to west coast of United States:							
British	7	25,583	31,496	38,427	24,150	26,009.73	12,111
French	2	7,681	10,006	12,088	7,455	7,763.09	1,853
Dutch	1	4,860	6,068	7,651	4,796	6,075.00	2,390
Norwegian	1	4,523	5,627	7,093	4,479	5,653.75	5,977
United States	1	4,226	4,285	5,614	3,421	3,169.50	.....
Swedish	1	3,430	5,533	5,554	4,225	4,287.50	7,966
Totals	13	50,303	63,015	76,427	48,526	52,958.57	30,297
From east coast of United States to Far East:							
British	6	29,598	36,399	42,913	27,382	36,719.50	38,446
United States	4	18,611	23,620	28,609	18,807	23,263.75	29,228
Japanese	3	12,334	14,406	18,700	12,210	15,249.55	15,130
Totals	13	60,543	74,425	90,222	58,399	75,232.80	82,804
From Europe to Australasia:							
British	9	55,448	64,866	82,611	53,024	69,091.35	49,164
From Cristobal, C. Z. to west coast of South America:							
Peruvian	3	4,225	8,296	13,764	7,190	5,281.25	1,576
Chilean	3	4,883	8,406	10,341	6,193	6,103.75	1,930
Panaman	1	31	50	171	31	36.00	.....
British	1	63	72	111	100	78.75	15
Totals	8	9,202	16,824	24,387	13,514	11,499.75	3,521
From Europe to west coast of Canada							
British	5	18,420	23,728	29,624	18,494	23,025.00	24,196
Danish	1	3,523	5,660	5,584	3,499	4,403.75	4,792
French	1	3,224	4,854	5,376	3,198	4,030.00	5,376
Totals	7	25,167	34,242	40,584	25,191	31,458.75	34,364
From east coast of United States to Australasia:							
British	3	11,109	15,886	17,815	11,186	13,886.25	12,181
United States	1	4,335	4,321	5,716	4,271	5,185.20	6,000
Totals	4	15,444	20,207	23,531	15,457	19,071.45	18,181
From Cristobal, C. Z., to west coast of Central America:							
British	2	1,286	1,441	3,298	1,304	1,607.50	1,700
United States	1	1,862	2,206	3,169	1,862	2,327.50	2,218
Panaman	1	69	69	123	72	51.75	.....
Totals	4	3,217	3,716	5,590	3,238	3,986.75	3,918

ATLANTIC TO PACIFIC.—Continued.

Route and registry.	No. of vessels.	Tonnage. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From east coast of United States to west coast of Canada:							
British	2	8,200	9,382	11,963	7,440	$8,191.50	1,500
United States	2	7,733	10,982	12,614	7,740	9,666.25	17,254
Totals	4	15,933	20,365	24,577	15,180	17,857.75	18,754
From Europe to west coast of Central America:							
German	2	3,619	5,296	6,155	3,613	4,523.75	1,082
Spanish	1	1,846	2,180	3,038	1,855	1,609.92	.....
Totals	3	5,465	7,476	9,193	5,468	6,133.67	1,082
From east coast of South America to west coast of South America:							
Colombian	2	668	670	1,728	1,228	804.00	834
United States	1	1,679	2,078	2,690	1,668	2,098.75	748
Totals	3	2,347	2,748	4,418	2,896	2,902.75	1,582
From east coast of Mexico to west coast of South America:							
British	2	8,760	9,827	14,672	8,545	10,950.00	19,336
From east coast of Canada to Australasia:							
British	2	7,611	9,577	12,422	7,643	9,513.75	7,885
From Cristobal, C. Z. to west coast of United States:							
British	1	3,301	4,512	5,277	3,211	3,248.64	.....
United States	1	1,201	1,560	1,974	1,161	1,501.25	830
Totals	2	4,502	6,072	7,251	4,372	4,749.89	830
On tourist cruise around the world:							
Panaman	1	7,990	13,028	17,258	7,990	9,987.50	.....
British	1	9,031	11,968	18,357	10,059	11,288.75	.....
Totals	2	17,021	24,996	35,615	18,049	21,276.25	.....
From east coast of Mexico to west coast of Central America:							
British	1	704	835	1,408	725	880.00	1,091
From West Indies to west coast of South America:							
United States	1	3,649	4,244	5,950	3,677	3,055.68	..
From West Indies to west coast of Central America:							
Norwegian	1	1,608	1,762	2,471	1,484	1,268.64	...
From east coast of South America to west coast of Canada:							
United States	1	3,634	4,873	5,867	3,634	4,542.50	4,460
From east coast of South America to Far East:							
Japanese	1	3,590	4,101	5,760	3,548	4,487.50	3,659
From east coast of Canada to west coast of Canada:							
British	1	1,872	2,008	3,188	1,910	2,340.00	3,255
From east coast of United States to Balboa, C. Z.:							
United States	1	4,294	5,329	6,994	4,294	5,367.50	6,260
Totals, January, 1923	194	733,893	923,778	1,167,899	725,623	827,922.39	593,743
Totals, December, 1922	161	574,251	717,877	907,121	564,475	659,185.50	560,418
Totals, January, 1922	125	416,527	513,764	646,371	420,419	516,256.62	493,591

PACIFIC TO ATLANTIC.

United States coastwise:							
United States	45	177,707	225,446	280,234	175,977	$222,020.50	339,098
From west coast of South America to Europe:							
British	11	42,120	54,894	68,012	42,190	52,650.00	73,720
German	6	17,829	26,069	29,597	17,737	22,286.25	36,839
Dutch	5	13,335	19,938	21,267	13,264	16,568.75	30,314
Danish	2	5,854	6,460	6,742	4,192	7,084.25	11,532
Italian	1	4,030	5,011	7,928	4,175	5,037.50	4,000
French	1	3,600	4,146	5,765	3,681	4,500.00	6,350
Totals	26	86,768	116,518	139,311	85,239	108,226.75	162,755

PACIFIC TO ATLANTIC—Continued.

Route and registry.	No. of vessels.	Tonnage.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered gross.	Registered net.		
From west coast of South America to east coast of United States:							
United States	8	24,290	29,753	42,706	25,104	$30,302.65	60,452
British	5	19,789	24,011	32,891	20,045	24,736.25	36,051
Danish	5	12,544	14,591	17,992	11,122	15,514.60	28,251
Norwegian	4	12,274	16,733	20,443	13,301	15,342.50	31,886
Chilean	1	3,095	4,705	7,289	3,913	3,868.75	5,100
Dutch	1	1,867	1,867	2,007	1,142	2,240.40	3,311
Totals	24	73,859	91,660	123,328	74,627	92,005.15	165,051
From west coast of Canada to Europe:							
Japanese	6	26,045	27,067	35,716	25,526	31,633.35	46,395
British	6	22,323	27,000	33,051	20,894	27,679.15	44,084
United States	3	15,704	18,582	23,160	15,717	19,630.00	29,813
Dutch	2	9,410	13,122	14,965	9,294	11,762.50	17,335
French	2	7,727	9,106	11,413	7,180	9,658.75	14,009
Danish	1	4,207	5,286	5,296	3,325	5,258.75	7,946
Totals	20	85,416	100,163	123,601	81,946	105,622.50	159,582
From west coast of United States to Europe:							
Japanese	4	17,321	19,046	25,393	17,054	21,290.95	31,525
British	3	8,619	10,423	14,007	8,824	10,773.75	18,346
Norwegian	1	4,509	5,637	7,116	4,493	5,636.25	9,300
United States	1	3,648	4,087	5,571	3,439	4,560.00	7,600
Swedish	1	2,259	3,900	3,805	2,833	2,823.75	7,300
Totals	10	36,356	43,093	55,892	36,643	45,084.70	74,071
From west coast of South America to Cristobal, C. Z.:							
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	4,147
British	3	675	1,028	1,263	815	843.75	362
Chilean	2	3,072	5,224	6,543	3,921	3,840.00	360
Panaman	1	31	50	157	31	38.75	50
Totals	9	7,486	14,052	20,288	10,798	9,357.50	4,919
From Far East to east coast of United States:							
United States	3	11,317	14,887	17,981	11,156	14,146.25	19,467
Japanese	2	8,644	10,296	13,743	8,531	10,805.00	15,041
Totals	5	19,961	25,183	31,724	19,687	24,951.25	34,508
From Australasia to Europe:							
British	3	14,844	17,317	19,965	12,761	18,128.40	17,212
From Australasia to east coast of United States:							
British	2	8,857	9,406	11,225	7,805	10,935.65	13,659
United States	1	3,604	4,480	5,816	3,604	4,505.00	2,146
Totals	3	12,461	13,886	17,041	11,409	15,440.65	15,805
From west coast of United States to Cristobal, C.Z.:							
United States	2	3,063	3,766	5,143	3,023	3,828.75	1,040
British	1	3,301	4,512	5,277	3,211	4,126.25	6,922
Totals	3	6,364	8,278	10,420	6,234	7,955.00	7,962
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,286	1,441	2,298	1,304	1,607.50	2,014
From west coast of South America to east coast of South America:							
United States	1	1,679	2,078	2,689	1,667	1,496.16	.....
Colombian	1	334	335	615	373	402.00	502
Totals	2	2,013	2,413	3,304	2,040	1,898.16	502
From Balboa, C. Z. to east coast of United States:							
United States	1	7,216	8,063	9,332	7,071	5,805.36	.....
From west coast of South America to east coast of Mexico:							
British	1	4,394	4,942	7,335	4,259	3,558.24	.....
From west coast of South America to West Indies:							
United States	1	3,649	4,244	5,950	3,677	4,561.25	7,638
From west coast of Canada to east coast of United States:							
Norwegian	1	4,211	5,301	6,672	4,164	5,263.75	7,081

PACIFIC TO ATLANTIC—Continued.

Route and registry.	No. of vessels.	Tonnage.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered gross.	Registered net.		
From west coast of United States to east coast of South America:							
United States	1	3,522	4,914	5,652	3,522	$4,402.50	3,991
From west coast of United States to West Indies:							
British	1	(1)	(1)	(1)	(1)	2,374.00	.....
Totals, January, 1923	158	547,513	686,914	862,347	541,358	678,263.16	993,189
Totals, December, 1922	143	529,974	657,386	827,557	526,957	653,384.53	974,684
Totals, January, 1922	85	272,508	332,752	423,469	271,229	331,510.93	313,707

[1] British cruiser of 4,748 tons displacement.

Passenger Service Between West Coast of United States and East Coast of South America.

The steamship *President Hayes* (formerly the *Creole State*) transited the Canal February 7, carrying a full list of 78 first-class passengers and 4,262 tons of cargo, en route from the west coast of the United States to Buenos Aires, via Porto Rico, Rio de Janerio, and Montevideo. The vessel is in the service of the Pacific-Argentine-Brazil Line, of Swayne & Hoyt, which has been operating cargo steamers in this trade for some time past.

The transit of the *President Hayes* marks the inauguration of the first combined freight and passenger service to be operated over this route. In addition to the *President Hayes*, the steamers *President Harrison* and *Susquehanna* will be employed in the run, with scheduled sailings every 35 to 40 days.

The *President Hayes* and *President Harrison* are Shipping Board liners of the "502" type, having a gross registered tonnage of 10,533, and accommodations for 78 first-class passengers. The *Susquehanna* also a Shipping Board vessel (formerly the German steamer *Rhein*) has a gross registered tonnage of 9,959, and carries slightly more passengers than the two "502" type liners.

Notice to Mariners.—Temporary Spar Buoy—Pacific Entrance, Panama Canal, Outer Anchorage.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., February 8, 1923.

A first-class spar buoy, painted in horizontal red and black stripes, established February 1, 1923, in 32 feet of water, with following true bearings measured from the points ashore:

San Jose Rock, center, 105° (E. 15/16 S. Mag.).
Taboguilla, L. H., 9° (N. 13/16 E. Mag.).
P. I. Ancon Hill, 136° (SE. 1/16 E. Mag.).

This buoy marks circular shoal of approximately 800 foot diameter. Least depth 32 feet at low water—water deepens from 6 to 9 fathoms gradually.

JAY J. MORROW, *Governor.*

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending February 10, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Losada	Pacific Steam Navigation Co.		February 4		11
Delft	Royal Netherlands W. I. Mail Co.		February 4		17½
Atenas	United Fruit Co.	February 4	February 5	½	181
Asian	Leyland Line	February 4	February 6	627	300
Crynssen	Royal Netherlands W. I. Mail Co.	February 5	February 6	141	(1)
Acajutla	Pacific Steam Navigation Co.		February 6		¼
Ucayali	Peruvian Line		February 6		449
Newport	Pacific Mail Steamship Co.	February 5	February 10	1,671	1,463½
Balboa	Compania Costanera Colombiana	February 5	February 10	480½	(1)
Essequibo	Pacific Steam Navigation Co.	February 6	February 6	34	337
Heredia	United Fruit Co.	February 6	February 7	605	(1)
Actor	Harrison Line	February 7	February 8	340	(1)
Tivives	United Fruit Co.	February 7	February 8	½	3
Metapan	United Fruit Co.	February 7	February 9	125	398
Atenas	United Fruit Co.	February 8	February 8	1	(1)
Calamares	United Fruit Co.	February 9	February 10	291	134
Buenos Aires	Spanish Line	February 9		220	
Crynssen	Royal Netherlands W. I. Mail Co.	February 9	February 10	(2)	381
Peursum	N. O. & S. A. S. S. Line	February 10	February 10	30	6½
Adalia	Hamburg-American Line	February 10		40	

[1] No cargo laded. [2] 2 packages.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending February 10, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Conus	Asiatic Petroleum Co.	February 4	February 5	7,681	
Newport	Pacific Mail Steamship Co.	February 5	February 5	45	
Acajutla	Pacific Steam Navigation Co.	February 6	February 6		23
Manavi	Pacific Steam Navigation Co.	February 6	February 6		49
Anyo Maru	Toyo Kisen Kaisha	February 7	February 7	4	29
Darien	A. B. Obarrio & Co.	February 7		120	
Lompoc	Union Oil Company of California	February 8	February 9	9,600	
Newport	Pacific Mail Steamship Co.	February 10	February 10		9
Laura C. Hall	Pacific Metals Transport Co., Ltd.	February 10	February 10		64
Peursum	N. O. & S. A. S. S. Co., Inc.	February 10	February 10	49	
Delrosa	General Steamship Corp.	February 10		13	

Ships at Canal Repair Shops.

The following vessels were at Balboa shops for repairs during the two weeks ended February 10:

Steamships *Cordelia*, install spare propeller blade; repack stern gland; manufacture grate bars for galley range; repair feed pump steam line; examine main shaft after bearing holding down bolts; furnish steam for firing up ship, and minor repairs to fuel oil pump; *Amazonas*, remove high power cylinder cover and make necessary repairs to piston ring springs, and reassemble; repair breaker screw for wireless. examine and repair main condenser; cut miscellaneous pieces of glass; *Amersfoort*, repair main engine I. P. crank pin brass; repair slipper for air pump, and renew rivets around hatch coaming where defective; *Roman Star*, electric weld saddle seams and wrapper plates where leaking; renew leaky rivets; bore out salted tubes; repair leaky stays on center, port, and starboard boilers as found necessary; examine main condenser and furnish steam for firing up ship; barge *No. 135*, dock and undock, scale and paint bottom; renew fenders; repair and renew plates on deck and reinforce deck trusses and supports; test all tanks and caulk all leaks; line up winding shaft for hopper doors and rerivet all loose hinge pads; install strongbacks on braces.

PREVIOUSLY REPORTED.

Dredge *Cascadas*, dock and undock; paint under water bottom one coat of red lead and zinc and one coat of anti-fouling; stop leaks in fresh water tank; reline spud well; repair boom and renew bottom boom trunnion; overhaul sea valves and miscellaneous minor repairs incident to above work.

Supplement No. 8—Tariff No. 6.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., February 3, 1923.

Item 2—TOLLS.

Paragraph 7 is amplified to read as follows:

7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls, but a charge will be made for pilotage in such cases, as provided in paragraph 4, item 3, of this tariff, and for handling lines in accordance with item 4 of this tariff.

Item 48—BAGGAGE TRANSFER.

(Effective February 15, 1923.)

1. For transferring baggage between any two points within the radius of operation of Panama Railroad or Panama Canal baggage trucks in the territory surrounding each Panama Railroad station:
   (*a*) Hand baggage or other small packages equivalent to hand baggage.....each.. $0.25
   (*b*) Trunks, or trunk equivalents.....each.. .50
2. Between Balboa docks and Panama City, including the Hotel Tivoli:
   (*a*) Hand baggage or other small packages equivalent to hand baggage.....each.. .50
   (*b*) Trunks, or trunk equivalents.....each.. 1.00
3. To or from points outside of the regular radius of operation of the trucks, special rates on request, which will be not less than double the basic rates.

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective February 12, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.35
Bronze, Tobin, average	Lb.	.29
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., February 21, 1923. No. 28.

Atlantic Fleet Transits the Canal.

Between February 1 and 17, 88 vessels of the United States Navy, comprising part of the Atlantic Fleet sent to Canal Zone waters to join the Pacific Fleet for the winter maneuvers, made the transit of the Canal. All but 7 of these vessels made the transit during the 6 days from the 12th to the 17th, inclusive.

The detailed classification of these vessels is as follows:

Battleships	7	Subtenders	
Cruisers	2	Air craft tender	1
Destroyers	20	Destroyer tender	1
Submarines	27	Tugs	3
Mine sweepers	9	Supply ship	1
Barges	5	Repair ship	1
Mine layers	3	Hospital sh p	1
Tankers	3	Collier	1

Heaviest Week's Traffic Through Canal to Date.

A total of 168 vessels transiting the Canal during the week ending at midnight, February 17, established a new high record for traffic through the Canal. This total was made up of 85 transits of commercial vessels, 81 transits of United States Naval vessels, and 2 small nonseagoing launches.

Owing to the passage of the Naval vessels from the Atlantic to the Pacific the traffic was greatly one-sided, there being 133 vessels passing through the Canal southbound as against 35 vessels going north.

COMMERCIAL TRAFFIC ALONE GREATER THAN AVERAGE.

Without the transit of the Atlantic Fleet, the week's traffic would have been heavier than ordinary. On the 14th, 19 commercial vessels transited the Canal, having a combined Panama Canal net tonnage of 86,808 tons, which, without considering the Naval vessels transiting the Canal that date, makes one of the heaviest day's traffic since its opening.

The aggregate net tonnage, Panama Canal measurement, of the commercial vessels passing through the Canal during the week, totaled 414,567 tons, or an average of 59,224 tons per day. The total displacement tonnage of the Naval vessels passing through the Canal totaled 314,946 tons, or an average of 52,494 tons for the 6 days during which the Fleet transited the Canal.

LOCKAGE RECORDS BROKEN.

On Wednesday, February 14, a total of 20 lockages were made in 16 hours and 17 minutes, at the Gatun Locks, during which time there were locked 20 commercial vessels and 1 cayuco (which is the record commercial traffic for 1 day); 6 Navy destroyers, 1 Navy mine sweeper, and 2 Navy auxiliary ships.

On Thursday, February 15, at Gatun Locks, a total of 21 lockages (a record for 1 day) was made in 15 hours and 58 minutes, during

which time there were locked 14 commercial ships and 24 Naval vessels as follows: 5 battleships; 13 submarines, 3 mine sweepers, 2 barges, and a Naval auxiliary ship. This is a total of 38 vessels and constitutes a record for one day.

On Friday, February 16, a total of 15 lockages were made in 12 hours at Gatun Locks, during which time there were locked 9 commercial vessels, 1 small launch, and 23 Naval vessels as follows: 14 submarines, 4 mine sweepers, and 5 Naval auxiliary ships.

On these 3 days, all of the vessels did not complete the transit southbound, some anchoring in Gatun Lake overnight.

OPERATING AT NIGHT.

Owing to the week's heavy traffic, the Canal Zone pilots and the operating forces at the Port Captains' offices and at the Atlantic and Pacific Locks, worked until late hours during the week ending February 17. In the following statement is shown the time of completion of the last lockage in each direction, daily, for the week's traffic:

TIME OF COMPLETION OF LAST LOCKAGE.

	North-bound.	South-bound.
	P. M.	P. M.
February 11	9.49	9.37
February 12	9.37	11.07
February 13	9.20	9.25
February 14	11.52	10.45
February 15	11.35	11.02
February 16	7.32	10.38
February 17	9.48	7.50

It is worthy of note that this traffic was handled by the regular organization without any special arrangements being made, and that no merchant vessels failed of prompt transit on account of the passage of the fleet.

Origin and Destination of Cargo Tonnage Through Canal During January.

In the tables showing the origin and destination of cargo passing through the Canal during the month of January, 1923, as shown on pages 350 and 351, it will be seen that the total westbound cargo passing through the Canal, 64.3 per cent, or 384,870 tons, originated on the Atlantic-Gulf seaboard of the United States; while of the eastbound cargo, 54.5 per cent, or 541,309 tons, were destined to that area.

Of the total westbound cargo through the Canal, 48.2 per cent, or 288,612 tons, were destined to the west coast of the United States, and 459,277 tons, or 46.3 per cent of the total eastbound cargo through the Canal, originated on the Pacific coast of the United States.

Cargo tonnage routed to the west coast of South America made up 16.8 per cent, or 100,462 tons, of the total westbound cargo, and represented an actual gain of 25,948 cargo tons over January of last year. Cargo routed through the Canal, originating on the west coast of South America, made up 34.3 per cent of total eastbound cargo, or 340,865 cargo tons, and represented an actual gain of 249,890 tons over January a year ago.

Cargo tonnage through the Canal routed to the Far East made up 14.6 per cent of the total westbound cargo tonnage, as compared with 30.6 per cent in January a year ago, there being an actual reduction of 63,041 cargo tons from January, 1922.

Cargo tonnage through the Canal from the west coast of Canada made up 11.2 per cent of the total eastbound cargo tonnage, as compared with 3.6 per cent a year ago, and represented an actual gain of 100,291 tons.

The total cargo movement through the Canal eastbound was 993,189 cargo tons, as compared with 313,707 cargo tons in January, 1922, representing an increase of more than 200 per cent. Shipments of the leading commodities eastbound through the Canal during January, 1923, as compared with January, 1922, were as follows:

	January, 1923.	January, 1922.
	Tons.	Tons.
Nitrate	191,120	46,716
Petroleum	164,166	342
Wheat	134,517	29,333
Lumber	132,385	57,347
Ores, various	68,815	10,647
Totals	691,003	144,385

The "Iowa" to Be Sunk Under Fire.

Among the vessels of the Atlantic Fleet making the transit of the Canal on February 10 was the old *Iowa*, now designated Coast Battleship *No. 4*, which is to be sunk by gunfire during the exercises of the combined fleets. With engines and helm controlled by radio the ship will be maneouvered as she would be in battle, in order to simulate war conditions as closely as practicable. She will serve both as an unusual target for gunnery and as a proof of the effects of various projectiles and explosives.

The firing, naturally, will be conducted well out of the lanes of traffic and precautions will be taken to protect commercial vessels against danger.

The *Iowa* is one of the historic vessels of the United States Navy. Authorized in 1892, and completed in 1897, she served in the Spanish-American War, taking part in the battle of Santiago.

Traffic for First Half of February.

A total of 161 commercial vessels transited the Canal during the first 14 days of February, the tolls on which aggregated $698,652.43. This gives a daily average of 11.5 commercial transits and $49,903.74 tolls for the first half of the month, as compared with a daily average of 11.4 commercial transits and $48,557.60 for the month of January.

While the daily average transits and tolls for the first 14 days were slightly higher than for the preceding month, the monthly totals will probably be a little under January's record figures owing to the fact that February has but 28 days.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending February 17, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged.	Cargo— Laded.
				Tons.	*Tons.*
General O. H. Ernst	Panama Railroad Steamship Line	February 12	February 12	10	215
Ansaldo San Giorgio III	Italian Line	February 13	Gebruary 14	44	.....
U. S. S. Trinity	U. S. Navy	February 14	.....	10·000	.....
Almelo	Royal Netherlands W. I. Mail	February 15	February 17	65	.....
Borgland	Norway-Pacific Line	February 15	February 15	110	12
San Juan	Pacific Mail Steamship Co	February 17	.....	41	.....
Orita	Pacific Steam Navigation Co	February 17	.....	2	.....
Darien	A. B. Obarrio & Co	February 7	February 14	(1)	100

[1] Previously reported.

Origin and Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, January, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.						Far East.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Asia.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																								
United States—																								
North Atlantic ports	6,925	1,557	1,002	7,605	.....	17,089	192,161	950	8,417	1,483	14	203,025	24,027	10,565	13,811	4,482	52,885	9,686	11,569	....	21,255	2,055	296,309	49.5
South Atlantic ports	.....	.....	.....	.....	.....	.....	659	.....	.....	.....	.....	659	560	1,727	.....	113	2,400	.....	.....	.....	.....	.....	3,059	0.5
Gulf ports	.....	.....	.....	.....	2,167	2,167	43,731	.....	.....	.....	6,260	49,991	16,612	10,219	3,138	.....	29,969	550	2,825	....	3,375	.....	85,502	14.3
Totals, United States	6,925	1,557	1,002	7,605	2,167	19,256	236,551	950	8,417	1,483	6,274	253,675	41,199	22,511	16,949	4,595	85,254	10,236	14,394	....	24,630	2,055	384,870	64.3
East coast, Mexico	19,336	.....	.....	.....	.....	19,336	.....	.....	.....	1,091	.....	1,091	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	20,427	3.4
Cristobal, C. Z.[2]	953	623	567	1,188	.....	3,331	101	.....	.....	4,930	.....	5,031	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	8,362	1.4
West Indies	.....	.....	.....	.....	1,000	1,000	4	1,910	.....	.....	.....	1,914	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	2,914	0.5
East coast, Canada	.....	.....	.....	.....	.....	.....	.....	1,445	.....	.....	.....	1,445	.....	.....	.....	.....	.....	1,864	3,573	....	5,437	.....	6,882	1.1
Total, North America	27,214	2,180	1,569	8,793	3,167	42,923	236,656	4,305	8,417	7,504	6,274	263,156	41,199	22,511	16,949	4,595	85,254	12,100	17,967	....	30,067	2,055	423,455	70.7
Europe:																								
Belgium	1,617	.....	805	2,286	.....	4,708	13,961	434	.....	272	.....	14,667	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	19,375	3.2
British Isles	19,128	.....	2,233	8,594	.....	29,955	19,999	9,921	.....	79	.....	29,999	.....	.....	.....	.....	.....	42,814	2,349	....	45,163	.....	105,117	17.7
Denmark	900	.....	900	1,014	.....	2,814	365	.....	.....	.....	.....	365	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	3,179	0.5
France	461	.....	53	146	45	705	436	4,721	.....	.....	.....	5,157	.....	.....	.....	.....	.....	.....	.....	23	23	.....	5,885	1.0
Germany	8,520	1,230	937	3,555	.....	14,242	2,758	.....	.....	1,082	.....	3,840	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	18,082	3.0
Holland	2,198	.....	126	115	.....	2,439	2,530	.....	.....	.....	.....	2,530	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	4,969	0.8
Italy	74	.....	.....	73	365	512	210	.....	.....	.....	.....	210	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	722	0.1
Norway and Sweden	.....	.....	.....	.....	.....	.....	7,521	6	.....	170	770	8,467	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	8,467	1.4
Spain	.....	.....	.....	.....	77	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	77	.....
Europe[1]	.....	.....	.....	.....	455	455	724	.....	.....	.....	.....	724	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	1,179	0.2
Totals, Europe	32,898	1,230	5,054	15,783	942	55,907	48,504	15,082	.....	1,603	770	65,959	.....	.....	.....	.....	.....	42,814	2,349	23	45,186	.....	167,052	27.9
East Coast South America:	.....	824	.....	808	.....	1,632	3,452	1,008	.....	.....	.....	4,460	2,144	.....	.....	.....	2,144	.....	.....	....	.....	.....	8,236	1.4
Grand totals	70,112	4,234	6,623	25,381	4,109	100,462	288,612	20,395	8,417	9,107	7,044	333,575	43,343	22,511	16,949	4,595	87,398	54,914	20,316	23	75,253	2,055	598,743	100 0
Per cent of total cargo:																								
January, 1923	10.2	0.7	1.1	4.1	0.7	16.8	48.2	3.4	1.4	1.5	1.2	55.7	7.2	3.8	2.8	0.8	14.6	9.2	3.4	....	12.6	0.3	100.0	.....
December, 1922	7.0	05.	1.1	3.7	2.4	14.7	50.2	1.5	.....	1.0	0.9	53.6	9.0	4.9	0.5	2.3	16.7	6.9	6.5	0.7	14.1	0.9	.....	.....
January, 1922	12.0	0.2	0.7	2.1	.....	15.0	27.6	5.7	.....	1.0	2.1	36.6	24.2	4.8	0.1	1.5	30.6	11.5	3.3	0.2	15.0	2.8	.....	.....

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, January, 1923.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. West Indies.	North America. Cristobal, C. Z.	North America. Total, North America.	Europe. Belgium.	Europe. British Isles.	Europe. Denmark.	Europe. France.	Europe. Germany	Europe. Holland.	Europe. Italy.	Europe. Norway and Sweden.	Europe. Spain and Portugal.	Europe. Europe.[1]	Europe. Total, Europe.	East coast of South America.	Grand totals	Per cent of total cargo.
South America:																					
Chile	96,413	23,160	39,499	159,072	.....	128	159,200	9,639	15,552	3,192	18,089	9,515	2,302	.....	4,020	.....	63,196	125,496	.....	284,696	28.6
Colombia	869	.....	.....	869	.....	1,081	1,950	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	1,987	0.2
Ecuador	2,452	.....	.....	2,452	.....	1,015	3,467	69	7	.....	80	1,047	29	.....	.....	.....	253	1,485	.....	4,952	0.5
Peru	779	.....	.....	779	7,638	3,663	12,080	3,328	15,829	.....	207	405	.....	.....	.....	.....	5,728	25,497	.....	37,577	3.8
West coast of South America[2]	1,214	.....	.....	1,214	.....	825	2,039	.....	2,251	.....	89	.....	.....	.....	.....	.....	7,274	9,614	.....	11,653	1.2
Totals, South America	101,727	23,160	39,499	164,386	7,638	6,712	178,736	13,027	33,639	3,192	18,465	10,967	2,331	.....	4,020	.....	76,451	162,092	37	240,865	34.3
North America:																					
West coast of United States	308,916	4,985	8,582	322,483	6,088	7,137	335,708	1,982	55,929	818	1,461	2,557	668	.....	5,100	7,280	44,860	120,655	2,914	459,277	46.3
West coast of Canada	3,540	3,541	.....	7,081	.....	.....	7,081	.....	36,721	.....	714	.....	2,242	15,246	.....	.....	49,555	1044,78	.....	111,559	11.2
West coast of Central America	567	.....	33	600	16	3,545	4,161	.....	.....	.....	.....	.....	.....	.....	.....	.....	33	33	.....	4,194	0.4
West coast of North America[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,443	8,443	.....	8,443	0.8
Totals, North America	313,023	8,526	8,615	330,164	6,104	10,682	346,950	1,982	92,650	818	2,175	2,557	2,910	15,246	5,100	7,280	102,891	233,609	2,914	583,473	58.7
Asia:																					
China	7,718	.....	45	7,763	3,440	.....	11,203	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,203	1.1
Japan	8,575	.....	.....	8,575	1,440	.....	10,015	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,015	1.1
Philippines	8,112	2,000	.....	10,112	.....	.....	10,112	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,112	1.1
Far East[1]	3,178	.....	.....	3,178	.....	.....	3,178	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,178	0.3
Totals, Asia	27,583	2,000	45	29,628	4,880	.....	34,508	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34,508	3.6
Australasia:																					
Australia	5,017	.....	.....	5,017	.....	.....	5,017	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,017	0.5
New Zealand	10,788	.....	.....	10,788	.....	.....	10,788	.....	11,157	.....	.....	.....	.....	.....	.....	.....	.....	11,157	.....	21,945	2.2
Australasia[1]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,055	6,055	.....	6,055	0.6
Totals, Australasia	15,805	.....	.....	15,805	.....	.....	15,805	.....	11,157	.....	.....	.....	.....	.....	.....	.....	6,055	17,212	.....	33,017	3.3
Hawaii	1,326	.....	.....	1,326	.....	.....	1,326	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,326	0.1
Grand totals	459,464	33,686	48,159	541,309	18,622	17,394	577,325	15,009	137,446	4,010	20,640	13,524	5,241	15,246	9,120	7,280	185,397	412,913	2,951	993,189	100.0
Per cent of total cargo:																					
January, 1923	46.3	3.4	4.8	54.5	1.9	1.7	58.1	1.5	13.8	0.4	2.2	1.4	0.5	1.5	0.9	0.7	18.7	41.6	0.3	100.00	...
December, 1922	53.1	3.5	6.6	63.2	2.2	1.3	66.7	0.4	18.0	.....	2.2	1.3	1.1	0.3	0.1	1.1	8.7	33.2	0.1	100.00	.....
January, 1922	43.4	2.2	4.2	49.8	0.7	1.7	52.2	2.6	30.6	2.2	2.5	5.3	0.2	1.4	.....	.....	2.8	47.6	0.2	100.00	.....

[1] General cargo not routed so as to allow segregation between definite ports.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 17, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Sagoland	10	19.13	11	6.42	11	13.44	11	14.52	Swedish	Axel Brostrom	430.0	54.0	15.0	Rotterdam	Iquique	Ballast		6,840	5,014
Canadian Constructor	10	19.34	11	7.45	11	14.38	12	0.44	British	Canadian Government	430.0	56.0	24.6	New London	Brisbane	General	6,000	7,680	5,494
Delaware Sun	11	3.55	11	8.15	11	15.38	12	5.20	American	Sun Oil Co	480.5	66.0	22.0	Philadelphia	Los Angeles	Ballast		9,402	6,586
Robert E. Hopkins	11	4.52	11	8.55	11	16.24	11	17.34	American	Tidewater Oil Co	424.4	58.2	20.0	New York	Los Angeles	Ballast		7,333	5,244
Californian[4]	11	6.53	11	9.15	11	17.15	11	18.13	American	American-Hawaiian Line	445.0	59.8	28.0	New York	Los Angeles	General	7,000	8,567	6,020
Corinthic	11	1.36	11	10.45	11	18.15	12	8.09	British	White Star Line	500.3	63.3	28.8	London	Wellington	General	7,918	12,821	9,507
Westmeath	11	6.28	11	12.50	11	20.36	12	8.31	British	Union Steamship Co	474.0	56.0	28.3	London	Auckland	General	6,240	9,485	6,689
Brazos[2]	8	7.05	11	15.25	12	22.50	12	11.45	American	U. S. Navy	475.0	56.0	26.0	Port Arthur	Balboa	Gasoline, fuel oil	4,000		
Lake Pepin	11	1.07	11	13.20	11	21.37	12	16.45	American	Hammond Lumber Co	251.0	43.0	19.6	New Orleans	San Francisco	General	2,000	2,169	1,340
Montauk	11	15.08	12	6.25	12	14.37	12	15.50	American	International Mex. Marine Co	419.5	56.5	28.0	Philadelphia	Seattle	General mdse	8,820	8,696	6,316
Quail[3]			12	6.45	12	14.37			American	U. S. Navy	180.0	35.6		Cristobal	Balboa				
Swiftstar	11	16.16	12	7.40	12	15.11	12	19.30	American	Swiftsure Oil Transportation Co.	464.0	60.0	17.0	Providence	Los Angeles	Ballast		8,473	6,050
Wheaton	10	23.19	12	8.00	12	15.55	12	17.00	American	A. E. Mittnacht (S. B.)	415.0	53.7	24.0	New York	Seattle	General	3,537	7,060	4,904
Rhodophis	11	14.51	12	9.05	12	16.40	12	17.45	German	Kosmos Line	435.0	53.0	23.5	Hamburg	Corral	General	4,100	7,525	5,154
Poinsettia[4]	1-24	19.34	12	9.25	12	19.34	15	17.30	American	M. H. Whittier	85.0	19.0	13.0	Trovaminda	Los Angeles	Ballast		62	38
Sharkey[5]	12	7.22	12	9.30	12	18.01			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Toucey[5]	12	7.22	12	9.30	12	18.01			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Lamson[5]	12	7.22	12	9.35	12	18.08			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Chas. Ausburne[5]	12	7.22	12	9.35	12	18.08			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Bruce	12	7.22	12	10.50	12	19.00			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Preston[5]	12	7.22	12	10.50	12	19.00			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Coghlan[5]	12	7.22	12	10.59	12	20.02			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Osborne[5]	12	7.22	12	10.50	12	20.02			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Worden[5]	12	7.22	12	11.20	12	19.22			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Billingsley[5]	12	7.22	12	11.20	12	19.22			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Reid[5]	12	7.35	12	11.20	12	20.24			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Dale[5]	12	7.35	12	11.20	12	20.24			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Isherwood[5]	12	7.40	12	12.25	12	21.03			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Cases[5]	12	7.40	12	12.25	12	21.03			American	U. S. Navy	315.0	38.0	10.0	Guanatnamo	Balboa				
Lardner[5]	12	7.40	12	12.25	12	22.06			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Breck[5]	12	7.40	12	12.25	12	22.06			American	U. S. Navy	315.0	38.0	10.0	Guantanamo	Balboa				
Port Caroline	12	7.35	12	12.35	12	21.30	12	22.40	British	Commonwealth & Dom. Line	480.7	62.0	24.3	Hull	Lyttleton	General	5,091	10,740	7,829
Kathlamba	12	10.35	12	13.02	12	23.07	13	20.10	British	Ellerman & Bucknell Line	434.4	51.7	24.6	New York	Brisbane	General	7,531	8,114	6,322
Maryland[6]	12	10.00	13	6.07	13	14.19			American	U. S. Navy	624.0	97.0	34.0	New York	Balboa				
Dinteldijk	12	2.45	13	6.22	13	15.17	13	16.15	Dutch	Holland-American Line	485.0	62.3	29.2	Hamburg	Vancouver	General	2,916	10,786	7,551
Tacoma Maru	12	16.15	13	7.25	13	16.16	13	18.30	Japanese	Osaka Shosen Kaisha	410.0	51.0	25.0	Buenos Aires	Yokohama	General	4,309	6,146	4,241

[1] Motor ship. [2] Tanker. [3] Tug. [4] Yacht. [5] Destroyer. [6] Battleship.

Rochester [7]	12	18.43	13	8.10	13	17.01			American	U. S. Navy	380.0	64.0	24.0	Guantanamo	Balboa					
Chickasaw City	12	13.55	13	8.50	13	17.52	13	18.50	American	U. S. Steel Products Co	411.6	55.0	26.3	New York	Vancouver	General, steel	8,063	6,841	4,686
Bridgeport [8]	13	7.55	13	9.15	13	18.38			American	U. S. Navy	429.3	54.3	26.4	Guantanamo	Balboa	Naval supplies	700		
Halsey	12	21.10	13	10.25	13	19.26	13	21.37	American	Walker & Daly (S. B.)	435.0	56.0	18.0	Galveston	Los Angeles	Ballast		7,642	5,324
Hakodate Maru	13	1.34	13	11.17	13	20.25	13	21.26	Japanese	Nippon Yusen Kaisha	400.0	54.5	20.8	New York	Yokohama	General	5,652	5,824	4,092
Hawaiian	12	20.35	13	11.30	13	21.25	13	22.40	American	American-Hawaiian Line	406.8	51.0	27.0	Philadelphia	Los Angeles	General	7,000	6,039	4,180
Marinula [5]	13	13.50	14	6.35	14	15.15	14	16.20	British	Anglo-Saxon Petroleum Co	440.0	54.0	28.0	Amsterdam	Seattle	Creosote	6,930	7,631	5,238
Trevessa	13	14.35	14	6.20	14	14.30	14	15.40	British	Hain Steamship Co	402.0	52.0	24.0	New York	Auckland	General	4,900	5,660	3,846
Hans Hemsoth	12	9.13	14	7.50	17	13.47	17	15.00	German	Wilhelm Hemsoth	300.0	41.1	23.0	Antwerp	San Francisco	Sand for glass	7,500	6,636	4,888
Ansaldo San Giorgio III	12	21.32	14	7.57	14	17.16	14	22.40	Italian	Transatlantic Italiana	378.0	51.5	16.3	Genoa	Valparaiso	General	800	5,759	4,013
Santa Rosa	12	22.05	14	8.07	14	15.43	14	16.45	American	Grace Line	404.6	53.0	27.6	New York	San Francisco	General	6,650	6,754	4,780
Selma City	13	15.32	14	8.55	14	18.24	16	17.50	American	U. S. Steel Products Co	425.0	56.0	26.0	New Orleans	Yokohama	(12)	7,970	7,611	5,450
H. H. Rogers	14	8.30	14	9.30	14	18.59	14	20.07	American	Standard Oil Co	500.0	68.0	21.0	New York	Los Angeles	Ballast		10,308	7,668
Agwipond	14	9.45	14	10.44	14	20.00	15	1.13	American	Guaranty Trust Co	468.3	62.7	17.10	Baltimore	Los Angeles	Ballast		9,810	7,052
Childs [5]	14	10.05	14	11.40	14	19.47			American	U. S. Navy	315.0	38.0	12.0	Guantanamo	Balboa				
Sands [5]	14	10.05	14	11.40	14	19.47			American	U. S. Navy	315.0	38.0	12.0	Guantanamo	Balboa				
Paulding [5]	14	10.10	14	11.40	14	20.46			American	U. S. Navy	315.0	38.0	13.0	Guantanamo	Balboa				
Brooks [5]	14	11.15	14	11.40	14	20.46			American	U. S. Navy	315.0	38.0	13.0	Guantanamo	Balboa				
Lark [9]	13	19.17	14	12.40	14	21.00			American	U. S. Navy	187.0	35.0	9.9	Guantanamo	Balboa				
Shawmut [10]	14	7.40	14	12.40	14	20.53			American	U. S. Navy	395.0	48.0	20.0	Bocas del Toro	Balboa	Naval supplies	20		
Maury [10]	12	17.00	14	12.55	14	21.50			American	U. S. Navy	310.0	31.0	9.9½	Key West	Balboa				
Mahon [10]	12	17.00	14	12.55	14	21.50			American	U. S. Navy	310.0	31.0	9.9½	Key West	Balboa				
Gen. G. W. Goethals	13	1.50	14	13.15	14	22.45	16	7.56	American	Panama Railroad Steamship Line	353.0	48.7	21.6	New York	Guayaquil	General	1,245	5,226	3,617
Tulsagas	14	13.25	14	13.35	14	22.05	14	23.46	American	McAllister Brothers (S. B.)	435.0	60.0	20.0	New Orleans	Los Angeles	Ballast		7,817	4,961
Trinity [2]	13	6.35	14	14.52	15	11.53			American	U. S. Navy	461.6	60.0	27.2	Guantanamo	Balboa	Fuel oil	10,000		
Cayuca 2072	13		14		14	16.20			Panaman	A. Sardie				Cristobal	Gatun	Unknown		3	3
Santa Elisa	14	14.38	15	6.07	15	12.37	15	16.30	American	Grace Line	360.3	51.7	22.6	New York	Talcahuano	General	2,509	5,957	4,325
Bushnell [11]	14	6.35	15	6.10	15	13.04			American	U. S. Navy	350.0	46.0	17.0	Norfolk	Balboa	Naval equipment			
Wyoming [6]	15	7.00	15	7.10	15	15.58			American	U. S. Navy	562.0	93.2½	29.0	Guantanamo	Balboa				
Delaware [6]	15	7.05	15	7.25	15	16.25			American	U. S. Navy	518.0	85.2½	28.9	Guantanamo	Balboa				
Utah [6]	15	7.15	15	8.25	15	17.46			American	U. S. Navy	521.5	88.2½	30.0	Guantanamo	Balboa				
North Dakota [6]	15	7.30	15	8.45	15	18.25			American	U. S. Navy	518.0	85.2½	28.9	Guantanamo	Balboa				
Nevada [6]	15	7.32	15	9.30	15	19.47			American	U. S. Navy	583.0	95.2½	29.6	Guantanamo	Balboa				
Agwisun	14	20.41	15	10.00	15	20.45	16	1.18	American	Atl. Gulf & W. I. S. S. Co	429.0	59.0	20.0	Savannah	Los Angeles	Ballast		7,612	5,319
O-4 [12]			15	10.00	15	20.50			American	U. S. Navy	172.0	18.5		Cristobal	Balboa				
Berengar	15	1.48	15	11.00	15	20.35	16	21.43	British	Oakwin Steamship Co	399.6	53.7	25.0	Newcastle	San Francisco	General	6,855	6,403	4,620
O-1 [12]			15	11.00	15	20.37			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Borgland [1]	15	6.35	15	11.20	15	21.43	16	5.30	Norwegian	Peter Olsen	372.0	51.0	22.4	Christiania	San Francisco	General	5,100	5,274	3,886
O-2 [12]			15	11.25	15	21.50			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
O-6 [12]			15	11.25	15	21.50			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Potosi	15	6.50	15	12.35	15	21.52	16	0.30	British	Pacific Steam Navigation Co	381.0	49.0	15.0	Swansea	Antofagasta	Ballast		5,559	4,201
O-5 [12]			15	12.35	15	21.52			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Huasco	12	18.12	15	13.09	15	22.47	15	23.50	Chilean	Chilean Line	379.7	44.3	20.8	Cristobal	Valparaiso	General	790	4,552	3,182
O-3 [12]			15	13.09	15	22.55			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
O-9 [12]			15	13.09	15	22.55			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Agwismith	15	12.15	15	13.55	15	23.02	16	6.40	American	Atl. Gulf & W. I. S. S. Co	499.9	68.1	20.6	Newport News	Los Angeles	Ballast		10,600	8,071
Vireo [9] and barge 472	15	7.50	15	14.15	16	12.43			American	U. S. Navy	187.10	35.6	10.0	Guantanamo	Balboa				
O-15 [12]			15	15.47	16	10.31			American	U. S. Navy	175.0	16.3	13.11	Cristobal	Balboa				

[7] Cruiser. [8] Destroyer tender. [9] Mine sweeper. [10] Mine layer. [11] Submarine tender. [12] Submarine.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
O-16 [12]			15	15.47	16	10.31			American	U. S. Navy	175.0	16.3	13.11	Cristobal	Balboa				
O-8 [12]			15	15.55	16	11.42			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
O-10 [12]			15	15.55	16	11.42			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Boboling [9] and barge 315	15	7.50	15	15.55	16	10.38			American	U. S. Navy	187.10	35.6	10.0	Guantanamo	Balboa				
Rail [9] and barge 465	15	7.50	15	16.05	16	10.33			American	U. S. Navy	187.10	35.6	10.0	Guantanamo	Balboa				
O-13 [12]			15	16.40	16	11.50			American	U. S. Navy	175.0	16.3		Cristobal	Balboa				
O-14 [12]			15	16.40	16	11.50			American	U. S. Navy	175.0	16.3		Cristobal	Balboa				
Colon	14	11.15	16	6.14	16	13.45			American	Panama Railroad Steamship Line	360.0	50.0	18.10	New York	Balboa [15]	Ballast		5,866	4,222
O-12 [12]			16	6.35	16	13.55			American	U. S. Navy	172.0	18.3		Cristobal	Balboa				
Relief [13]	15	7.45	16	6.25	16	15.01			American	U. S. Navy	460.0	61.0	19.6	Guantanamo	Balboa				
O-11 [12]			16	6.45	16	14.58			American	U. S. Navy	175.0	16.3		Cristobal	Balboa				
Wright [14]	11	12.30	16	7.05	16	16.07			American	U. S. Navy	448.0	58.0	26.0	Truxillo	Balboa				
Teal	12	16.07	16	6.50	16	16.15			American	U. S. Navy	187.0	35.0	10.0	Guantanamo	Balboa				
Almelo	15	2.04	16	8.03	16	17.11	16	18.0	Dutch	Royal Netherlands W. I. Mail	440.0	62.6	18.6	Hamburg	Guayaquil	General	1,678	9,403	6,653
R-24 [12]	15		16	8.10	16	15.43			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
R-27 [12]	15		16	8.10	16	15.46			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
Victolite	15	10.10	16	8.45	16	17.59	16	18.47	British	Imperial Oil Co	500.4	68.0	24.10	New York	Talara	Ballast		11,049	7,994
R-23 [12]	15		16	9.05	16	17.11			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
Savannah [12]	16	2.17	16	9.05	16	19.05			American	U. S. Navy	414.10	46.1	23.0	Guantanamo	Balboa	Sub. supplies	2½		
R-25 [12]	15		16	10.00	16	17.49			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
Lake Cayuga	15	21.00	16	10.15	16	19.10			American	U. S. Navy	252.0	43.5		Newport News	San Francisco	General	1,020	2,143	1,388
R-21 [12]	15		16	10.26	16	17.40			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
R-26 [12]	15		16	10.30	16	17.47			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
Beaver [12]	15	9.27	16	11.05	16	19.40			American	U. S. Navy	380.0	47.5	23.4	Guantanamo	Balboa	Sub. supplies			
S-1 [12]	15	9.10	16	11.20	16	19.15			American	U. S. Navy	231.0	21.0	16.5	Guantanamo	Balboa				
R-22 [12]	15		16	11.20	16	19.15			American	U. S. Navy	175.0	16.9	13.6	Guantanamo	Balboa				
S-30 [12]	15	9.30	16	11.55	16	20.55			American	U. S. Navy	231.0	21.0	16.5	Guantanamo	Balboa				
S-33 [12]	15	9.30	16	11.55	16	20.55			American	U. S. Navy	231.0	21.0	16.5	Guantanamo	Balboa				
S-19 [12]	15	9.40	16	12.05	16	22.35			American	U. S. Navy	231.0	21.0	16.5	Guantanamo	Balboa				
S-20 [12]	15	9.40	16	12.05	16	22.35			American	U. S. Navy	231.0	21.0	16.5	Guantanamo	Balboa				
Antilochus	16	8.45	16	13.15	16	20.40	16	21.55	British	Ocean Steamship Co	486.0	58.0	30.9	New York	Shanghai	General	7,845	9,336	6,432
Sandpiper [9]	16	7.05	16	13.20	16	22.35			American	U. S. Navy	187.0	35.0	10.0	Port Limon	Balboa				
City of Auckland	15	16.13	16	13.49	16	22.38	16	22.30	British	Ellerman Hall Line	478.6	62.2	19 6	Middlesboro	San Francisco	General	1,100	9,394	6,723
Mallard [9]	16	6.55	16	13.50	16	22.38			American	U. S. Navy	189.0	35.0	10.0	Guantanamo	Balboa				
Robin [9] and barge 282	16	13.00	16	15.05	17	14.43			American	U. S. Navy	187.10	35 4	13.2	Guantanamo	Balboa				

[13] Hospital ship. [14] Air craft tender. [15] For orders.

Rappahannock	16	11.25	16	15.10	17	9.34			American	U. S. Navy	471.0	59.0	23.6	Guantanamo	Balboa	Naval supplies	3,372			
America [16]	9		16	1	16	14.36			American	J. H. Stilson	32.0	9.2	3.3	Cristobal	Gatun Lake	Unknown		6	6	
Toco	16	21.15	17	6.21	17	14.38	17	16.00	British	Sheridan Steamship Co	440.8	56.0	26.6	Tampico	Tocopilla	Crude oil		7,693	4,885	
Steelore	17	2.30	17	7.15	17	15.40	17	16.50	American	Ore Steamship Co	550.3	72.2	20.0	New York	Cruz Grande	Ballast		15,551	4,297	
Sonnica [4]	13	10.00	17	9.00	17	16.40	19	13.05	American	H. S. Shonnard	87.2	23.0	10.6	New York	Balboa	Ballast		115	102	
Munrio	17	7.58	17	8.55	17	16.50	17	22.51	American	Munrio Steamship Corporation	333.6	48.2	23.6	New York	Los Angeles	General	5,500	4,165	3,066	
Morioka Maru	17	7.10	17	9.00	17	19.50	17	21.00	Japanese	Nippon Yusen Kaisha	360.0	51.0	23.4	New York	Keelung	General	3,834	4,833	3,410	
Patuxent [3]			17	9.29	17	18.59			American	U. S. Navy	156.0	29.0	16.0	Cristobal	Balboa					
Victorious	17	9.02	17	10.43	17	18.50	17	20.00	American	Tampa Interocean Co. (S. B.)	449.0	56.0	29.0	New Orleans	Yokohama	General, case o'l	8,003	8,323	6,036	
U. S. N. Oil barge No. 32			17	13.15	17	14.11			American	U. S. Navy	168.0	27.0		Cristobal	Balboa					

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Targis	10	14.00	11	7.08	11	15.30	11	20.05	German	Roland Line	264.0	48.0	14.6	Salina Cruz	Hamburg	General	1,250	2,174	1,320	
J. N. Pew	10	19.30	11	8.07	11	17.22	11	17.22	American	Sun Oil Co	430.0	66.0	28.6	San Pedro	Philadelphia	Oil	13,300	9,494	6,012	
Steel Exporter	11	5.15	11	9.08	11	18.00	11	18.00	American	Isthmian Steamship Co	442.2	56.2	24.0	Vancouver	New York	General, lumber	6,600	7,611	5,450	
Tymeric	10	23.30	11	13.52	11	21.49	11	23.26	British	Andrew Weir & Co	409.1	52.0	25.0	Antofagasta	Falmouth	Nitrate	7,400	6,102	4,530	
Huasco	12	2.00	12	8.29	12	18.12	15	13.09	Chilean	Chilean Line	380.0	44.0	21.0	Talcahuano	Cristobal	General	242	4,552	3,182	
Chester Sun	11	23.20	12	9.16	12	19.30	12	19.30	American	Sun Oil Co	429.3	59.2	27.3	San Pedro	Baltimore	Oil	10,071	7,684	5,299	
Iolcos	12	10.00	12	11.10	12	21.37	13	0.48	Greek	Helenic Steamship Co	400.0	52.2	26.0	Calcta Buena	Cristobal [19]	Nitrate	8,200	5,771	4,047	
Gen. O. H. Ernst	12	5.00	13	6.55	13	15.32	14	13.55	American	Panama Railroad Steamship Line	356.0	45.3	19.0	Guayaquil	New York	General	1,342	4,503	2,764	
Horace Luckenbach	13	4.40	13	7.49	13	16.58	13	18.35	American	Luckenbach Line	445.0	58.0	24.6	Portland	Boston	General	7,498	8,626	6,290	
Oreus	13	8.20	13	10.02	13	19.04	14	0.17	American	Wessel & Duval	380.2	53.1	22.6	Talcahuano	Cristobal [19]	Nitrate	6,800	5,667	4,227	
Statesman	13	13.00	13	13.37	13	21.20	13	22.20	British	T. and J. Harrison	439.6	53.0	26.0	Vancouver	Liverpool	General	8,033	6,361	4,519	
Bologna	13	15.00	14	7.08	14	18.10	18	2.52	Italian	Italian Line	384.0	46.7	18.0	Valparaiso	Genoa	General	344	5,531	3,773	
Arabia [18]	12	12.15	14	7.10	14	18.39	14	18.30	Panaman	San Blas Trading Co	102.6	24.0	10.0	Corinto	Colon	Ballast		123	69	
Gargoyle	13	14.40	14	8.03	14	19.20	14	23.15	American	Vacuum Oil Co	425.0	57.2	26.3	San Francisco	Paulsboro	Oil	10,042	7,510	4,989	
Agwilake	13	14.30	14	8.53	14	19.25	14	19.25	American	Ward Line	468.3	62.7	28.0	Los Angeles	Boston	Oil	12,700	9,802	7,138	
Lochkatrine	13	16.00	14	10.21	14	20.43	15	10.40	British	Royal Mail Steam Packet Co	485.4	62.3	30.0	Seattle	Rotterdam	General	9,920	10,803	7,595	
Melville Dollar	14	7.20	14	10.58	14	21.05	14	23.38	American	Robert Dollar Line	429.0	55.2	27.5	Vancouver	New York	Lumber, copper	8,000	7,581	5,519	
Ceres	14	9.50	14	11.39	14	22.48	15	20.44	Dutch	Royal Netherlands W. I. Mail Co	363.0	48.0	19.10	San Antonio	Amsterdam	General, nitrate	3,900	4,243	3,123	
Eastwood	13	15.15	14	12.59	14	22.38	14	22.38	British	Watts Watts & Co	340.0	48.0	22.10	Tocopilla	Barcelona	Nitrate	5,636	4,090	3,017	
Redondo	14	13.55	14	14.26	14	23.52	14	23.52	American	Redondo Steamship Line	341.0	48.2		Aberdeen	New York	Lumber	5,200	4,419	3,230	
Santa Eulalia	14	18.35	14	15.01	14	23.58	14	23.58	American	Isthmian Steamship Line	251.0	43.6	23.5	Tacoma	Boston	General	3,100	2,823	1,730	
Calzarolite	14	14.15	15	7.07	15	20.33	15	21.15	British	Imperial Oil Co	453.6	60.2	28.0	Talara	New York	Oil	19,500	8,491	6,096	
Steel Inventor	14	22.30	15	7.55	15	18.47	15	18.47	British	Isthmian Line	424.2	56.2	25.0	Vancouver	Baltimore	General	7,450	7,611	5,450	
Suffolk	14	18.48	15	8.09	15	21.44	15	23.15	British	Federal Steam Navigation Co	460.0	58.0	24.6	Lyttleton	Avonmouth	General	8,464	9,096	6,421	
Candidate	14	24.00	15	8.45	15	21.43	15	22.40	British	T. and J. Harrison	400.0	52.0	25.0	San Francisco	Immingham	Barley	6,438	5,677	4,126	
Canadian Freighter	14	20.45	15	13.11	15	22.27	16	0.56	Dutch	Canadian Government	399.3	52.4	24.3	Saigon	Cienfuegos	Rice	7,000	6,224	4,487	
Salvador	15	11.45	15	13.15	15	22.59			American	Pacific Steam Navigation Co	215.0	33.5	23.0	Champerico	Balboa	General	1,112	1,270	735	
Breda	15	10.00	16	6.59	16	17.54	17	1.10	American	Royal Netherlands W. I. Mail Co	402.5	58.3	26.6	West coast p'ts	Hamburg	Nitrate	8,423	7,384	5,226	
John D. Archbold	16	7.45	16	8.50	16	19.03	16	19.03	American	Standard Oil Co	554.9	75.6	31.0	San Pedro	New York	Oil	20,000	14,785	10,314	
Willhilo	16	10.00	16	11.13	16	19.32	16	19.32	American	Williams Steamship Co	435.3	52.7	23.8	San Francisco	New York	General	6,739	7,983	5,882	
Bethelridge	15	12.15	15	14.40	15	23.45	15	23.58	American	Watts Watts & Co	431.0	59.2	24.0	Los Angeles	New York	Oil	8,463	7,819	5,146	
Cokesit	17	2.00	17	8.00	17	16.48	17	18.24	American	Barner Line	401.0	53.2	21.0	Cebu	Boston	General	6,500	6,629	4,864	
Tilthorn	17	8.00	17	9.29	17	17.30	17	17.30	Norwegian	Wessel & Duval	420.2	53.9	28.0	Iquique	Savannah	Nitrate	10,309	6,591	4,730	
Blue Triangle	17	10.00	17	10.56	17	18.32	17	18.32	American	Nawsco Line	390.0	54.2	27.0	San Francisco	New York	General, lumber	5,230	6,209	4,317	
Sabine Sun	17	13.30	17	14.24	17	21.48	17	22.20	American	Sun Oil Co	429.3	59.2	27.8	Los Angeles	Chester, Pa	Oil	11,000	7,526	5,456	

[16] Launch. [17] Steel, cotton, sulphur, and sulphate ammonia. [18] Motor schooner. [19] For orders. * Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 356, column 2.)

Official Circular.

Grass Fires.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
BALBOA HEIGHTS, C. Z., February 13, 1923.

To all concerned—Owing to the frequency of grass fires during the dry season and the ease with which they can be started, the Cattle Industry from time to time has sustained the loss of valuable pastures during the dry season.

It is requested that all persons who have occasion to be near or in any of the pastures belonging to the Cattle Industry exercise the greatest possible care to see that such fires are not started. This applies particularly to the pastures in and around Summit and at Gold Hill which are burned nearly every year by unauthorized fires, either accidental or intentional.

R. K. MORRIS,
Chief Quartermaster.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.. .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 355.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
February 11.	Santa Marta	United Fruit Co.	New Orleans via Habana.
February 11.	Reliance	United American Lines	New York via Habana.
February 13.	Haiti	French Line	St. Nazaire and way ports.
February 14.	San Gil	United Fruit Co.	Boston via Habana.
February 14.	Parismina	United Fruit Co.	New Orleans via Habana.
February 14.	Sixaola	United Fruit Co.	New York via Kingston.
February 16.	Pastores	United Fruit Co.	New York via wayports.
February 17.	Coronado	Elders & Fyffes, Ltd.	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
February 11.	Adalia	Hamburg-American Line	Port Limon.
February 11.	Reliance	United American Line	La Guayra.
February 12.	Buenos Aires	Spanish Line	Barcelona and wayports.
February 13.	Santa Marta	United Fruit Co.	New Orleans via wayports.
February 14.	San Gil	United Fruit Co.	Boston via Port Limon.
February 15.	Sixaola	United Fruit Co.	Colombian ports.
February 15.	Parismina	United Fruit Co.	New Orleans via wayports.
February 15.	Haiti	French Line	St. Nazaire and wayports.
February 17.	Coronado	Elders & Fyffes, Ltd.	Kingston.
February 17.	Pastores	United Fruit Co.	New York via wayports.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
February 13.	Baja California	Latin-American Line	Talara.
February 15.	Aegina	Roland Line	Corinto.

Date.	Vessel.	Line.	For—
February 12.	Tustam	Struthern & Barry	San Francisco.
February 13.	Baja California	Latin-American Line	Vancouver.
February 15.	Darien	Obarrio & Co.	Buenaventura.

*Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

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A Record Day at the Pacific Locks.

A new high record for both ships handled and lockages made at the 2 locks at the Pacific end of the Panama Canal was established on February 14. At Pedro Miguel there were 19 commercial ships and 23 lockages, 10 northbound and 13 southbound. At Miraflores there were 19 commercial ships and 24 lockages, 10 northbound and 14 southbound. The time of arrival and departure is shown below:

	Northbound.	Southbound.
Pedro Miguel:		
First ship entered chamber	8.55 a. m.	12.23 p. m.
Last ship cleared chamber	5.44 p. m.	8.35 p. m.
Miraflores:		
First ship entered chamber	7.54 a. m.	1.12 p. m.
Last ship cleared chamber	4.36 p. m.	10.20 p. m.

Battleship "Maryland" One of the Largest Vessels to Have Transited Canal.

The battleship *Maryland* of the United States Navy, which transited the Canal southbound on February 12, is one of the largest vessels to have used the Canal to date. Her principal dimensions are: Length, 624 feet; beam, 97 feet, 3½ inches; draft, 34 feet; with a normal displacement of 32,600 tons, and a full load displacement of 33,590 tons.

As vessels of the United States Navy do not pay tolls, they are not measured previously to transiting the Canal. With a full load displacement, however, the *Maryland* would slightly exceed the British cruiser *Renown* which transited the Canal on March 30, 1920, with a displacement tonnage of 33,379 which heretofore was the record displacement tonnage of any war vessel using the Canal.

The *Maryland* was carrying a crew of 1,950 at time of her transit.

CANAL WORK IN JANUARY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of January, 1923:

BALBOA HEIGHTS, C. Z., February 21, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering the operations of The Panama Canal during the month of January, 1923:

COMMERCIAL TRAFFIC.

The traffic which passed through the Panama Canal during the month of January, 1923, exceeded that of any other month since the opening of the Canal. New high records were established for number of vessels, tonnage, tolls, and tons of cargo carried.

The total number of commercial vessels through the Canal during January, 1923, was 352, as compared with 210 in January, 1922; or an increase of 67 per cent. The Panama Canal net tonnage of commercial vessels through the Canal in January, 1923, was 1,610,692, as compared with 846,516 tons in January, 1922, an increase of 90 per cent; the tolls collected in January, 1923, amounted to $1,505,285.55, as compared with $847,767.55 in January, 1922, an increase of 77 per cent. The amount of cargo carried by commercial vessels through the Canal in January, 1923, was 1,591,932 tons, as compared with 807,298 tons in January, 1922, an increase of 97 per cent.

The increase in traffic through the Canal, from the Atlantic to the Pacific, was due almost entirely to the greatly increased traffic originating on the east coast of the United States, which, in January, 1923, was 575,244 tons, Panama Canal measurement, as compared with 279,870 tons in January, 1922, and to the increase in tonnage originating in Europe, which, in January, 1923, was 256,951 tons, Panama Canal measurement, as compared with 153,315 tons in January, 1922.

The increase in traffic from the Pacific to Atlantic was due principally to the in crease in tonnage originating on the west coast of the United States, which, in January, 1923, was 281,731 tons, Panama Canal measurement, as compared with 152,922 tons in January, 1922, and the increase in tonnage originating in the west coast of South America, which in January, 1923, was 233,829 tons, Panama Canal measurement, as compared with 100,224 tons in January, 1922.

The aggregate net tonnage of vessels destined to the west coast of the United States in January, 1923, was 405,126 tons, Panama Canal measurement, as compared with 170,927 tons in January, 1922. The tonnage destined to the west coast of South America in January, 1923, was 230,874 tons, Panama Canal measurement, as compared with 112,160 tons in January, 1922. The tonnage destined to the east coast of the United States in January, 1923, was 369,539 tons, Panama Canal measurement, as compared with 168,337 tons in January, 1922. The tonnage destined to Europe in January, 1923, was 277,091 tons, Panama Canal measurement, as compared with 115,392 tons in January, 1922.

The following summary shows a comparison of the January, 1923, traffic with that for December, 1922, January, 1922, and with the average month for the calendar year 1922:

	January, 1923.	December, 1922.	January, 1922.	Average month for calendar year 1922.
Number of vessels	352	304	210	250
United States equivalent tonnage	1,281,406	1,104,225	689,035	864,647
Panama Canal net tonnage	1,610,692	1,375,263	846,516	1,082,714
Registered gross tonnage	2,030,246	1,734,678	1,069,840	1,359,595
Registered net tonnage	1,266,981	1,091,432	691,648	959,176
Tolls	$1,505,285.55	$1,312,570.12	$847,767.55	$1,047,783.98
Tons of cargo carried	1,591,932	1,535,102	807,298	1,142,546

NUMBER OF VESSELS THROUGH THE CANAL.

The total number of vessels and craft of all kinds transiting the Canal during the month of January, 1923, as compared with December, 1922, and with January, 1922, was as follows:

	January, 1923.	December, 1922.	January, 1922.
Commercial vessels	352	304	210
Noncommercial vessels	20	21	22
Launches, etc. (under 10 tons measurement)	3	3	6

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	3	4	7
Pedro Miguel	15	18	33
Miraflores	14	17	31

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER COMMERCIAL VESSEL.

	January, 1923.	December, 1922.	January, 1922.
United States equivalent net tonnage	3,640	3,632	3,281
Panama Canal net tonnage	4,576	4,524	4,031
Registered gross tonnage	5,768	5,706	5,095
Registered net tonnage	3,599	3,590	3,294
Tolls	$4,276.38	$4,317.66	$4,036.99
Tons of cargo carried (including vessels in ballast)	4,522	5,049	3,844
Tons of cargo carried (laden vessels only)	5,452	5,859	4,160

UNITED STATES INTERCOASTAL TRAFFIC.

The number of vessels engaged in the United States intercoastal traffic which transited the Canal in January, 1923, was 108, as compared with 48 in January, 1922; while the Panama Canal net tonnage in January, 1923, was 561,485, as compared with 247,849 in January, 1922; the tolls in January, 1923, were $513,954.84, as compared with $252,844.35 in January, 1922; and the tons of cargo carried in January, 1923, amounted to 561,996, as compared with 206,275 tons in January, 1922. The following statement shows by months the number of vessels, Panama Canal net tonnage, tolls and tons of cargo carried by vessels engaged in the United States intercoastal trade during the past year:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1922.								
January	28	138,928	$141,404.35	119,413	20	108,921	$111,440.00	86,862
February	25	117,512	116,235.50	94,548	19	89,862	84,133.82	84,330
March	34	162,572	161,738.65	141,648	25	128,988	124,465.78	123,657
April	24	114,283	110,272.10	137,207	26	131,193	130,010.00	118,652
May	32	152,260	153,626.80	173,128	23	108,686	111,151.00	108,319
June	34	161,981	156,172.74	181,651	25	121,156	113,554.60	113,692
July	31	155,758	145,346.51	150,379	25	126,894	123,615.00	153,052
August	35	159,982	146,881.68	158,098	25	127,577	125,697.50	164,150
September	34	175,211	164,208.35	162,955	29	144,231	137,377.25	192,300
October	44	218,319	201,582.70	176,911	29	156,722	160,497.85	235,728
November	43	225,442	199,628.57	164,680	31	162,615	157,142.50	263,422
December	55	262,177	245,140.65	256,569	44	237,182	242,379.90	369,653
Total, 1922	419	2,044,425	1,942,238.60	1,917,187	321	1,644,027	1,621,465.20	2,013,827
1923.								
January	63	336,039	291,934.34	231,898	45	225,446	222,020.50	330,098

UNITED STATES SHIPPING BOARD VESSELS.

Twenty-one vessels of the United States Shipping Board transited the Canal during the month of January, 1923. These vessels had an aggregate Panama Canal net tonnage of 103,228 tons; paid $94,629.23 in tolls, and carried 87,754 tons of cargo. During the month of January, 1922, there were 13 United States Shipping Board vessels transiting the Canal with an aggregate Panama Canal net tonnage of 66,096, paying $65,403.20 in tolls, and carrying 52,406 tons of cargo. Of the 21 vessels of the United States Shipping Board transiting the Canal in January, 1923, 9 were engaged in the United States intercoastal trade; 4 in trade between the United States and Far East; 4 between the United States and South America; 2 between the United States and Australasia; and 2 between the east coast of South America and the west coast of South America. The following is a statement of United States Shipping Board vessels which have passed through the Canal during the past year:

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
1922.								
January	6	34,546	$34,756.25	23,575	7	31,550	$30,646.95	23,831
February	8	39,168	36,706.25	49,424	6	32,909	31,538.75	21,119
March	16	84,766	86,531.95	90,633	9	51,848	46,734.40	37,310
April	7	35,406	35,006.25	51,244	9	49,140	50,900.85	43,783
May	13	68,285	67,898.75	89,483	9	42,499	41,595.00	50,953
June	9	44,694	45,091.20	50,219	4	18,833	15,957.14	16,230
July	9	48,271	43,558.46	40,739	11	56,504	55,439.45	58,429
August	7	39,798	36,247.85	27,932	7	32,920	31,665.00	45,532
September	8	43,796	36,661.62	33,559	5	24,116	23,363.75	36,935

	Atlantic to Pacific.				Pacific to Atlantic.			
	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.	No. of ships.	P. C. net tonnage.	Tolls.	Tons of cargo.
October	6	50,672	$31,203.35	29,742	6	27,656	$26,533.95	39,240
November	5	25,566	25,770.00	20,002	5	24,020	23,888.00	31,931
December	10	50,754	45,055.53	34,933	4	20,808	21,186.25	32,767
Totals, 1922	104	545,922	524,487.46	541,485	82	412,803	399,449.49	443,060
1923.								
January	13	66,872	61,045.57	42,539	8	36,356	33,583.66	45,215

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the calendar year 1922, and in January, 1923, the figures representing the Panama Canal net tonnage:

ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	East coast of United States.	Europe.	Mexico.	Cristobal.	Miscellaneous.	Total.
1922.						
January	279,870	153,315	30,271	18,398	31,910	513,764
February	273,996	146,572	30,477	19,061	17,899	488,005
March	382,213	144,630	17,225	21,389	20,586	586,041
April	305,725	138,836	15,443	17,508	43,176	520,688
May	403,970	118,012	26,305	22,529	23,897	594,713
June	367,338	159,506	22,949	18,182	26,221	594,196
July	359,282	150,518	15,812	15,831	32,788	574,231
August	375,187	165,342	27,788	20,963	22,582	611,862
September	369,756	170,003	4,382	17,271	21,004	582,416
October	433,864	196,618	14,170	19,665	48,135	712,452
November	449,080	174,504	13,035	17,692	40,652	694,963
December	519,455	164,772	4,885	9,426	19,339	717,877
Average month for calendar year 1922	376,645	156,886	18,561	18,159	29,016	599,267
January, 1923	575,244	256,951	10,662	26,612	54,309	923,778

DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1922.						
January	170,927	112,160	100,878	83,526	46,273	513,764
February	151,388	107,476	107,197	94,271	27,673	488,005
March	195,833	105,532	149,697	83,107	51,872	586,041
April	145,819	121,973	121,594	81,436	49,866	520,688
May	184,282	142,801	178,176	49,410	40,044	594,713
June	197,065	158,597	99,806	86,551	52,177	594,196
July	217,045	116,533	113,464	52,439	74,750	574,231
August	231,608	152,917	116,154	87,229	23,954	611,862
September	257,780	122,215	99,828	76,203	26,390	582,416
October	281,857	194,282	106,467	82,250	47,596	712,452
November	276,301	167,963	98,280	73,004	79,415	694,963
December	318,830	187,428	80,515	70,461	60,643	717,877
Average month for calendar year 1922	219,061	140,823	114,338	76,657	48,388	599,267
January, 1923	405,126	239,874	78,526	94,650	105,602	923,778

ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
1922.						
January	152,992	100,224	16,860	27,172	35,504	332,752
February	142,693	110,778	21,594	42,950	80,515	398,530
March	175,669	104,847	15,008	48,575	45,671	389,770
April	182,496	124,842	31,969	75,485	39,353	454,145
May	170,412	133,033	24,388	41,334	68,936	438,103
June	160,229	110,603	16,857	9,982	78,846	376,517
July	209,896	144,368	62,230	59,642	77,504	553,640
August	186,496	149,528	53,247	32,317	50,683	472,271
September	244,463	143,762	32,903	27,451	39,415	487,994

Month.	West coast of United States.	West coast of South America.	Far East.	Australasia.	Miscellaneous.	Total.
October	287,606	201,071	20,232	8,022	81,009	597,940
November	244,902	237,497	43,148	22,547	94,223	642,317
December	280,465	217,805	33,133	26,301	99,682	657,386
Average month for calendar year 1922	203,194	148,196	30,964	35,148	65,945	483,447
January, 1923	281,731	233,829	25,183	31,203	114,968	686,914

DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

Month.	Europe.	East coast of United States.	Mexico.	Cristobal.	Miscellaneous.	Total.
January	115,392	168,337	26,831	16,489	5,703	332,752
February	163,919	172,900	31,767	18,242	11,702	398,530
March	134,687	193,267	34,969	18,724	8,123	389,770
April	169,493	242,087	6,615	20,266	15,684	454,145
May	165,143	224,244	17,474	16,637	14,605	438,103
June	111,440	215,947	16,301	27,306	5,523	376,517
July	217,171	281,005	15,542	17,191	22,731	553,640
August	163,885	269,944	9,865	17,726	10,851	472,271
September	165,132	263,987	10,868	21,782	26,225	487,994
October	246,239	278,764	9,346	15,667	47,924	597,940
November	254,212	333,867	15,223	18,389	20,626	642,317
December	217,861	397,120	17,920	15,894	8,591	657,386
Average month for calendar year 1922	177,048	253,455	17,727	18,693	16,524	483,447
January, 1923	277,091	369,539	4,942	23,771	11,571	686,914

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of January, 1923, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

	Tonnage routed to—		Tonnage routed from—	
	Per cent increase.	Per cent decrease.	Per cent increase.	Per cent decrease.
Europe	56.5	.....	63.7	.....
East coast of United States	40.6	.....	52.7	.....
East coast of Mexico	.....	72.0	.....	42.6
Cristobal, C. Z.	27.1	.....	46.5	.....
West coast of United States	84.9	.....	38.6	.....
West coast of South America	70.4	.....	57.7	.....
Australasia	23.4	.....	.....	11.2
Far East	.....	31.4	.....	18.8

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of January, 1923, was $1,505,285.55. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from this source would have been increased by $295,179.09, distributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$42,232.11	$26,478.90	$68,711.01
Chilean	6,497.10	4,206.05	10,703.15
Danish	3,046.62	3,746.80	6,793.42
Dutch	5,343.64	11,240.75	16,584.39
French	4,064.80	1,743.65	5,808.45
German	8,951.85	8,996.55	17,948.40
Italian	2,110.75	975.70	3,086.45
Japanese	2,471.35	3,961.50	6,432.85
Norwegian	975.83	7,419.90	8,395.73
Panaman	5,644.03	21.25	5,665.28
Peruvian	5,229.75	4,665.00	9,894.75
Spanish	[1]40.32	.....	[1]40.32
Swedish	2,352.10	1,856.25	4,208.35
United States	56,352.88	74,634.30	130,987.18
Totals	145,232.49	149,946.60	295,179.09

[1] Gain.

The additional tolls that would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$37,651.53	$56,590 85	$94,242.38
United States and United States possessions	1,230.00	2,855.25	4,085.25
United States and Canal Zone ports	1,717.75	690.45	2,408.20
United States and foreign ports	15,001.15	11,297.80	26,298.95
Between foreign ports	752.45	3,199.95	3,952.40
Totals	$56,352.88	$74,634.30	$130,987.18

Of the additional $295,179.09 revenue that would have been assessed by using exclusively the Panama Canal rules of measurement, $12,465.60 represents the sum that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in January, 1923, is shown in the following table, segregated by nationality of vessels; vessels in ballast are excluded:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	.89	1.41	1.10
Chilean	.42	.55	.47
Colombian	1.24	1.50	1.33
Danish	.83	1.81	1.50
Dutch	.73	1.73	1.21
French	.56	1.53	1.04
German	.51	1.41	1.03
Italian	.26	.80	.47
Japanese	1.01	1.65	1.49
Norwegian	1.06	1.74	1.63
Panaman	.....	1.00	1.00
Peruvian	.53	.53	.53
Swedish	1.44	1.87	1.63
United States	1.16	1.49	1.34
Average ratio, January, 1923	.98	1.48	1.25
Average ratio, December, 1922	1.03	1.53	1.30
Average ratio, January, 1922	.99	1.03	1.01

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.69	1.46	1.00
United States and South America	.16	1.80	.89
United States and Europe	.49	1.42	.98
United States and Far East	1.11	1.37	1.18
Europe and South America	.65	1.38	1.08
Europe and Australasia	.76	1.00	.81
Europe and Canada	1.00	1.59	1.44
Cristobal, C. Z., and South America	.21	.35	.27
United States and Australasia	.90	1.13	1.00

COMMODITY STATISTICS.

Atlantic to Pacific.

The total amount of cargo passing through the Canal from the Atlantic to the Pacific in January, 1923, was 598,743 tons, as compared with 493,591 tons in January, 1922, or an increase of 21 per cent. There were 384,870 tons of cargo originating on the east coast of the United States in January, 1923, as compared with 289,281 tons in January, 1922. The amount of cargo originating in Europe in January, 1923, amounted to 167,052 tons, as compared with 98,590 tons in January, 1922.

Pacific to Atlantic.

The total amount of cargo passing through the Canal from the Pacific to the Atlantic in January, 1923, was 993,189 tons, as compared with 313,707 tons in January 1922, or an increase of 216 per cent. The amount of cargo originating on the west coast of South America in January, 1923, was 340,865 tons, as compared with 90,975 tons in January, 1922. The cargo originating on the west coast of the United States

in January, 1923, amounted to 459,277 tons, as compared with 155,218 tons in January, 1922. The amount of cargo originating in the Far East in January, 1923, was 34,508 tons, as compared with 14,915 tons in January, 1922. The amount of cargo originating in Australasia in January, 1923, was 33,017 tons, as compared with 29,079 tons in January, 1922.

The following commodity statistics, compiled from cargo declarations and manifests submitted by ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From cargo declarations and manifests submitted it was possible to classify by commodities 75 per cent of all cargo passing from the Atlantic to the Pacific, and 95 per cent of all cargo passing from Pacific to Atlantic ports, the remaining commodities being listed as "general merchandise." A brief summary of the principal items is shown below; the figures represent tons of 2,240 pounds:

PRINCIPAL ITEMS OF CARGO, IN TONS.

Commodity.	January, 1923.	December, 1922.	January, 1922.
Atlantic to Pacific.			
Ammonia	589	3,458	10,767
Automobiles and accessories	2,681	5,589	722
Cement	12,799	7,136	2,675
Coal and coke	26.106	29,769	37,587
Cotton raw	9,038	10,352	8,793
Glassware	3,871	1,327	1,353
Manufactured goods:			
Iron and steel	141,537	117,034	78,020
Railroad material	16,378	18,465	19,992
Machinery	19,953	11,437	9,046
Textiles	10,069	9,032	2,787
Other manufactured goods	2,556	6,440	6,864
Metals, various	38.587	18,785	10,992
Oils:			
Crude petroleum	25,922	9,703	65,862
Lubricating oil	9,019	9,001	2,180
Kerosene, gasoline	44,592	38,701	28,407
Vegetable and other oils	2,177	1,168	4,050
Paper	9,927	6,912	2,569
Sulphur	6,694	4,100	18,025
Sugar	2,791	302	30,515
Tobacco	2,657	3,926	1,831
Other and general merchandise	210,440	247,781	150,554
Totals	598,743	560,418	493,591
Pacific to Atlantic.			
Barley	25,831	23,669	8,462
Beans, peas, lentils, etc	9,459	7,051	5,088
Cacao	3,615	3,433	3,917
Canned goods:			
Fish	18,287	17,570	9,246
Fruit	26,409	41,411	11,729
Other and unclassified	2,080	6,975	890
Coffee	5,097	2,225	3,707
Copra	1,250	9,287	2,278
Cotton, raw	6,725	4,074	4,238
Flour	16,028	10,303	1,017
Fruit, dried	6,307	18,649	2,213
Fruit, fresh	990	10,935	6,484
Hemp	1,697	5,636	576
Ivory nuts	2,856	4,585	2,717
Lumber	132,385	113,077	57,347
Metals:			
Copper	24,974	23,037	11,401
Other, various	6,550	5,784	2,833
Nitrates	191,120	159,341	46,716
Oils:			
Crude petroleum and naptha	159,300	158,855	.....
Lubricating oil	4.866	.....	.....
Benzine, kerosene, and gasoline	.....	25,223	42
Vegetable and other oils	8,686	6,647	1,958
Ores:			
Iron	59,200	59,958	.....
Other, various	9,615	5,742	10,647
Rice	4,624	16,278	1,621
Skins and hides	3,724	3,326	3,082
Sugar	21,829	30,863	12,679
Tea	2,908	2,943	410
Wheat	134,517	92,613	29,333
Wool	11,761	3,256	16,024
Other and general merchandise	90,499	101,938	57,052
Totals	993,189	974,684	313.707

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of January, 1923, was published in THE PANAMA CANAL RECORD under date of February 14, 1923. The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo carried over the principal trade routes during the month of January, 1923, as compared with December, 1922, and with January, 1922:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	January, 1923.	December, 1922.	January, 1922.	January, 1923.	December, 1922.	January, 1922.
United States coastwise ports	63	55	28	45	44	20
United States and Far East	13	14	15	5	6	2
Europe and United States	13	7	7	10	10	7
United States and South America	26	25	11	24	23	9
Europe and South America	22	17	12	26	18	11
Cristobal and South America	8	5	10	9	8	10
Europe and Australasia	9	6	10	3	5	4
United States and Australasia	4	7	4	3	1	2
Europe and Canada	7	5	4	20	14	4
Mexico and United States	.....	.....	.....	.....	.....	1
Mexico and South America	2	1	4	1	4	3
United States and Canada	4	5	1	1	4	2
Miscellaneous	23	14	19	11	6	10
Totals	194	161	125	158	143	85
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	336,039	262,177	138,928	225,446	237,182	108,921
United States and Far East	74,425	76,233	81,449	25,183	33,133	10,475
Europe and United States	63,015	31,540	28,243	43,093	41,690	31,964
United States and South America	118,879	95,944	32,227	91,660	101,330	29,283
Europe and South America	87,352	72,316	45,525	116,518	77,104	42,789
Cristobal and South America	16,824	6,392	13,936	14,052	12,860	12,749
Europe and Australasia	64,866	32,368	57,000	17,317	22,833	18,560
United States and Australasia	20,207	38,093	22,366	13,886	3,468	8,612
Europe and Canada	34,242	27,228	18,615	100,163	76,234	22,079
Mexico and United States	.....	.....	.....	.....	.....	5,042
Mexico and South America	9,827	4,885	20,472	4,942	17,920	15,403
United States and Canada	20,365	20,299	4,289	5,301	19,083	9,665
Miscellaneous	77,737	50,402	50,714	29,353	14,549	17,209
Totals	923,778	717,877	513,764	686,914	657,386	332,752
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	231,898	256,569	119,413	330,098	369,653	86,862
United States and Far East	82,804	92,112	121,939	34,508	49,540	14,845
Europe and United States	30,297	.....	20,877	74,071	57,582	48,186
United States and South America	19,256	26,057	16,702	165,051	176,189	30,848
Europe and South America	57,046	41,511	17,912	162,755	124,802	53,813
Cristobal and South America	3,521	2,076	2,258	4,919	7,434	6,194
Europe and Australasia	49,164	24,527	46,096	17,212	23,558	20,279
United States and Australasia	18,181	40,828	22,634	15,805	5,800	8,800
Europe and Canada	34,364	23,213	15,872	159,582	112,330	26,395
Mexico and South America	19,336	9,443	37,152	.....	.....	.....
United States and Canada	18,754	25,158	2,521	7,081	30,818	11,826
Miscellaneous	34,122	18,924	70,215	22,107	16,978	5,659
Totals	598,743	560,418	493,591	993,189	974,684	313,707

LATIN-AMERICAN TRAFFIC.

The tonnage, tolls and cargo routed to and from Latin-America through the Canal during the month of January, 1923, classified by nationality of vessels, is shown in the following tabulations:

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	20	62,315	77,096	99,511	61,003	$69,761.18	45,962
Chilean	5	11,874	17,783	24,940	14,055	14,842.50	7,493
Colombian	2	668	670	1,728	1,228	804.00	834
Danish	3	8,239	8,968	10,876	6,961	9,022.75	5,167

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific—Contd.							
Dutch	6	19,124	25,070	30,623	19,327	$19,402.64	10,431
French	1	3,631	4,166	5,818	3,712	4,538.75	660
German	6	14,011	20,388	23,298	14,028	17,513.75	10,896
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Italian	2	6,049	8,060	10,169	5,911	7,561.25	2,149
Japanese	1	3,590	4,101	5,760	3,548	4,487.50	3,659
Norwegian	4	14,539	16,367	20,871	12,975	11,907.06	.....
Panaman	2	100	119	294	103	87.75	.....
Peruvian	4	6,741	11,380	17,593	9,631	8,426.25	6,076
Spanish	2	3,762	4,817	6,068	3,773	3,508.56	.....
United States	17	58,002	71,006	94,035	57,710	61,509.60	28,714
Totals, January, 1923	76	215,784	274,038	356,760	217,195	236,287.38	122,041
Totals, December, 1922	58	167,669	211,293	273,501	167,293	189,681.67	98,011
Totals, January, 1922	53	125,593	157,920	206,237	128,918	154,248.53	138,640
Pacific to Atlantic.							
British	23	71,565	90,828	117,076	71,824	87,521.99	119,069
Chilean	3	6,167	9,929	13,832	7,834	7,708.75	5,460
Colombian	1	334	335	615	373	402.00	502
Danish	7	18,398	21,051	24,734	15,314	22,598.85	39,783
Dutch	6	15,202	21,805	23,274	14,406	18,909.15	33,625
French	1	3,600	4,146	5,765	3,681	4,500.00	6,350
German	6	17,829	26,069	29,597	17,737	22,286.25	36,839
Italian	1	4,030	5,011	7,928	4,175	5,037.50	4,000
Norwegian	4	12,274	16,733	20,443	13,301	15,342.50	31,886
Panaman	1	31	50	157	31	38.75	50
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	4,147
United States	14	43,419	52,818	71,472	44,064	50,396.67	73,121
Totals, January, 1923	70	196,557	256,525	327,218	198,771	239,377.41	354,832
Totals, December, 1922	59	179,144	223,763	292,808	181,551	215,714.58	325,403
Totals, January, 1922	43	97,282	122,476	163,863	100,454	111,178.05	96,515

TRAFFIC BY NATIONALITY.

A statement of all commercial traffic passing through the Canal during the month of January, 1923, classified according to the nationality of the various vessels, is shown in the following tabulation:

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
From Atlantic to Pacific.							
British	56	229,187	282,406	356,831	222,291	$269,827.01	194,800
Chilean	5	11,874	17,783	24,940	14,055	14,842.50	7,493
Colombian	2	668	670	1,728	1,228	804.00	834
Danish	4	11,762	14,628	16,460	10,460	13,426.50	9,959
Dutch	7	23,984	31,138	38,274	24,123	25,477.64	12,821
French	4	14,536	19,026	23,282	14,365	16,331.84	7,889
German	6	14,011	20,388	23,298	14,028	17,513.75	10,896
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Italian	2	6,049	8,060	10,169	5,911	7,561.25	2,149
Japanese	4	15,924	18,507	24,460	15,758	19,737.05	18,789
Norwegian	5	19,062	21,994	27,964	17,454	17,560.81	5,977
Panaman	3	8,090	13,147	17,552	8,093	10,075.25	.....
Peruvian	4	6,741	11,380	17,593	9,631	8,426.25	6,076
Spanish	2	3,762	4,817	6,068	3,773	3,508.56	.....
Swedish	1	3,430	5,533	5,554	4,225	4,287.50	7,966
United States	88	361,674	450,254	568,550	356,998	394,728.64	313,094
Totals, January, 1923	194	733,893	923,778	1,167,899	725,623	827,022.39	598,743
Totals, December, 1922	161	574,251	717,877	907,121	564,475	659,185.59	560,418
Totals, January, 1922	125	416,527	513,764	646,371	420,419	516,256.62	493,591
Pacific to Atlantic.							
British	38	126,208	154,974	195,324	122,108	157,412.94	212,370
Chilean	3	6,167	9,929	13,832	7,834	7,708.75	5,460
Colombian	1	334	335	615	373	402.00	502

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Pacific to Atlantic—Contd.							
Danish	8	22,605	26,337	30,030	18,639	$27,857.60	47,729
Dutch	8	24,612	34,927	38,239	23,700	30,671.65	50,960
French	3	11,327	13,252	17,178	10,861	14,158.75	20,359
German	6	17,829	26,069	29,597	17,737	22,286.25	36,839
Italian	1	4,030	5,011	7,928	4,175	5,037.50	4,000
Japanese	12	52,010	56,409	74,852	51,121	63,729.30	92,961
Norwegian	6	20,994	27,671	34,231	21,958	26,242.50	48,267
Panaman	1	31	50	157	31	38.75	50
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	4,147
Swedish	1	2,259	3,900	3,805	2,833	2,823.75	7,300
United States	67	255,399	320,300	404,234	253,957	315,258.42	462,245
Totals, January, 1923	158	547,513	686,914	862,347	541,358	678,263.16	993,189
Totals, December, 1922	143	529,974	657,386	827,557	526,957	653,384.53	974,684
Totals, January, 1922	85	272,508	332,752	423,469	271,229	331,510.93	313,707
Combined traffic.							
British	94	355,395	437,380	552,155	344,399	427,239.95	407,170
Chilean	8	18,041	27,712	38,772	21,889	22,551.25	12,953
Colombian	3	1,002	1,005	2,343	1,601	1,206.00	1,336
Danish	12	34,367	40,965	46,490	29,099	41,284.10	57,688
Dutch	15	48,596	66,065	76,513	47,823	56,149.29	63,781
French	7	25,863	32,278	40,460	25,226	30,490.59	28,248
German	12	31,840	46,457	52,895	31,765	39,800.00	47,735
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Italian	3	10,079	13,071	18,097	10,086	12,598.75	6,149
Japanese	16	67,934	74,916	99,312	66,879	83,466.35	111,750
Norwegian	11	40,056	49,665	62,195	39,412	43,803.31	54,244
Panaman	4	8,121	13,197	17,709	8,124	10,114.00	50
Peruvian	7	10,449	19,130	29,918	15,662	13,061.25	10,223
Spanish	2	3,762	4,817	6,068	3,773	3,508.56	.....
Swedish	2	5,689	9,433	9,359	7,058	7,111.25	15,266
United States	155	617,073	770,554	972,784	610,955	709,987.06	775,339
Totals, January, 1923	352	1,281,406	1,610,692	2,030,246	1,266,981	1,505,285.55	1,591,932
Totals, December, 1922	304	1,104,225	1,375,263	1,734,678	1,091,432	1,312,570.12	1,535,102
Totals, January, 1922	210	689,035	846,516	1,069,840	691,648	847,767.55	807,298

VESSELS WITHOUT CARGO.

The number of ships in ballast transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following statement:

	Atlantic to Pacific. No. of ships.	Atlantic to Pacific. Panama Canal net tonnage.	Atlantic to Pacific. Tolls.	Pacific to Atlantic. No. of ships.	Pacific to Atlantic. Panama Canal net tonnage.	Pacific to Atlantic. Tolls.
Freight and passenger vessels:						
British	10	49,606	$37,921.95	.....	.....	.....
Danish	1	2,581	1,914.00	.....	.....	.....
Dutch	3	13,634	9,872.64	.....	.....	.....
Greek	1	4,047	2,913.84	.....	.....	.....
Norwegian	4	16,367	11,907.06	.....	.....	.....
Panaman	1	69	51.75	.....	.....	.....
Spanish	2	4,817	3,508.56	.....	.....	.....
United States	5	27,133	19,571.67	2	10,141	$7,301.52
Tankers:						
British	3	13,393	9,642.96	1	4,942	3,558.24
French	1	5,072	3,651.84	.....	.....	.....
United States	24	154,484	111,595.77	.....	.....	.....
Totals	55	291,203	212,552.04	3	15,083	10,859.76

Two of the British vessels listed above paid tolls at the laden rate on account of carrying an excess amount of fuel.

KINDS OF VESSELS.

A further classification of the commercial traffic through the Canal during the month of January, 1923, by nature of vessels, is shown below:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger vessels:						
Laden	130	582,996	$566,835.30	137	576,530	$564,892.65
Ballast	27	118,254	87,661.47	2	10,141	7,301.52
Tankers:						
Laden	5	24,293	26,150.00	17	95,301	100,136.75
Ballast	28	172,949	124,890.57	1	4,942	3,558.24
Passenger ships	2	24,996	21,276.25	.....	.....	.....
Tug	1	50	36.00	.....	.....	.....
Yacht	1	240	172.80	.....	.....	.....
Cruiser	.....	.....	.....	1	(1)	2,374.00
Totals	194	923,778	827,022.39	158	686,914	678,263.16
Steamers	186	894,700	800,934.09	149	660,516	652,589.16
Motor ships	5	28,697	25,785.00	6	26,254	23,142.50
Motor schooners	2	141	130.50	2	144	157.50
Cruiser	.....	.....	.....	1	(1)	2,374.00
Totals	194	923,778	827,022.39	158	686,914	678,263.16

[1] British cruiser of 4,748 tons displacement.

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of January, 1923. If tolls had been assessed against these vessels at commercial rates, the amounts assessed would have been approximately as indicated. The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these launches, although paying tolls, are excluded from the statement of commercial traffic:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
U. S. Navy vessels:						
Collier	1	[1] 19,250	$9,625.00	1	[1] 19,250	$9,625.00
Cruiser	.....	.....	.....	1	[1] 3,200	1,600.00
Submarine	.....	.....	.....	1	[1] 845	422.50
Supply ship	1	[2] 5,270	6,587.50	.....	.....	.....
Tanker	.....	.....	.....	1	[1] 16,800	8,400.00
Transport	1	[2] 4,306	5,382.50	.....	.....	.....
Tugs	4	[3] 3,750	1,875.00	4	[1] 3,750	1,875.00
U. S. Army vessels:						
Mine planters	1	[2] 46	34.50	1	[1] 1,208	604.00
Transports	1	[3] 5,389	6,736.25	2	[2] 9,756	12,195.00
Total Government vessels	9	.....	30,240.75	11	.....	34,721.50
Launches	3	[3] 15	12.60	.....	.....	.....
Totals	12	.....	30,253.35	11	.....	34,721.50

[1] Displacement tonnage. [2] Registered net tonnage. [3] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried the following amount of cargo:

	Tons.
Atlantic to Pacific	15,186
Pacific to Atlantic	1,541

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of January, 1923, are shown in the following tabulations:

	Cristobal.	Balboa.	Totals.
Local cargo arriving ... tons	37,180	12,009	49,189
Local cargo shipped ... tons	2,244	214	2,458
Transit cargo arriving ... tons	1,559,602	1,582,689	3,142,291
Transit cargo clearing ... tons	1,557,076	1,585,925	3,143,001
Cargo received for transshipment ... tons	19,406	293	19,699
Cargo transshipped ... tons	20,857	151	21,008
Vessels supplied with bunker coal:			
Army vessels	5	1	6
Commercial, other than Panama Railroad	68	5	73
Panama Railroad vessels	3	.....	3
Total vessels supplied with coal	76	6	82
Coal supplied to above vessels:			
Army vessels ... tons	429	31	460
Commercial, other than Panama Railroad ... tons	21,455	447	21,902
Panama Railroad vessels ... tons	659	.....	659
Total coal supplied to vessels ... tons	22,543	478	23,021
Coal issues, miscellaneous:			
Panama Canal departments ... tons	182	58	240
Panama Railroad Company, excepting vessels ... tons	17	20	37
U. S. Army, excepting vessels ... tons	408	.....	408
Individuals and companies ... tons	286	.....	286
Total coal issues from Panama Canal deposits:			
January, 1923 ... tons	23,436	556	23,992
December, 1922 ... tons	18,367	100	18,467
January, 1922 ... tons	19,496	993	20,489
Coal on hand, February 1, 1923 ... tons	82,611	3,099	85,710
Coal on hand, January 1, 1923 ... tons	96,607	.....	96,607
Coal received during January, 1923 ... tons	9,440	4,975	14,415
Coal returned to Navy ... tons	.....	1,320	1,320
Fuel oil issued from Panama Canal tanks:			
Panama Canal departments ... bbls	5,190	20,558	25,748
Panama Railroad Company ... bbls	385	.....	385
Army and Navy ... bbls	702	227	929
Total issues and sales ... bbls	6,277	20,785	27,062
Fuel oil on hand, February 1, 1923 ... bbls	37,360	45,103	82,463
Fuel oil on hand, January 1, 1923 ... bbls	43,637	65,888	109,525
Diesel oil issued during January, 1923 ... bbls	.....	10	10
Diesel oil sold during January, 1923 ... bbls	26	.....	26
Diesel oil on hand, February 1, 1923 ... bbls	44,925	843	45,768
Oil pumped for individuals and companies ... bbls	368,801	343,829	712,630
Miscellaneous transfers ... bbls	5,542	469	6,011
Total oil handled ... bbls	380,645	365,093	745,738
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	33	9	42
Measured for Panama Canal net tonnage	6	2	8
Remeasured for Panama Canal net tonnage	13	6	19
Panama Canal net tonnage corrected	17	7	24
U. S. equivalent tonnage corrected	31	16	47
Services of harbor equipment:			
Tugs, total operating hours	405	237	642
Launches, total operating hours	1,310	1,570	2,880
Revenues from tug service, pilotage, etc.:			
Tug service	$12,168.75	$6,229.50	$18,398.25
Launch service	1,668.50	2,156.50	3,825.00
Pilotage	14,265.00	6,404.00	20,669.00
Seamen	6,416.00	5,352.00	11,768.00
Wharfage	.....	4,297.81	4,297.81
Ships measured	270.00	100.00	370.00
Miscellaneous cash collections	1,192.05	798.00	1990.05
Vessels repaired at Panama Canal shops:			
Commercial	29	18	47
U. S. Army and Navy	4	5	9
Canal equipment	7	18	25
Vessels dry-docked:			
Commercial	2	1	3
U. S. Army and Navy	2	.....	2
Canal equipment	.....	3	3
Clearances issued	200	197	397
Bills of health issued	197	197	394

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of January, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	397	2,330,996	1,461,079	369	2,135,699	1,344,569
Vessels entering port but not transiting the Canal	47	236,560	141,821	10	26,415	16,313
Vessels transiting Canal and handling passengers or cargo	81	447,506	269,720	45	243,372	151,825
Ships clearing.						
All vessels, including those transiting Canal	396	2,327,001	1,454,354	371	2,143,924	1,351,631
Vessels entering the port but not transiting the Canal	48	243,848	148,536	11	26,510	16,372
Vessels transiting Canal and handling passengers or cargo	78	437,210	263,618	46	252,976	158,851

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of January, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	971	554	1,525	14	10	24
From Pacific ports	169	61	230	106	38	144
Total disembarking	1,140	615	1,755	120	48	168
Embarking:						
For Atlantic ports	977	1,013	1,990	3	1	4
For Pacific ports	173	52	225	35	18	53
Total embarking	1,150	1,065	2,215	38	19	57
Remaining on board vessels:						
From Atlantic to Pacific ports	1,864	1,918	3,782	1,966	1,931	3,897
From Pacific to Atlantic ports	515	768	1,283	677	294	971
From Atlantic to Atlantic ports	1,087	71	1,158	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	23	97	120
Total remaining on board	3,466	2,757	6,223	2,666	2,322	4,988
Total passengers arriving	4,606	3,372	7,978	2,786	2,370	5,156
Total passengers departing	4,616	3,822	8,438	2,704	2,341	5,045

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of January, 1923:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$78.03	$1,013.63	$181.12	$68.00	.....	$1,340.78
Panama Railroad vessels	36.45	2,821.89	8.07	291.60	.....	3,158.01
Other commercial vessels	975.58	11,965.83	3,401.07	836.53	.....	17,182.01
Total sales, January, 1923	1,093.06	15,801.35	3,590.26	1,196.13	.....	21,680.80
Total sales, December, 1922	888.67	14,776.64	5,762.15	1,976.58	.....	23,404.04
Total sales, January, 1922	1,579.51	15,558.24	3,105.54	968.55	.....	21,211.84
Sales at Balboa to:						
U. S. Government vessels	97.59	6,447.54	316.18	272.28	454.49	7,588.08
Commercial vessels	641.91	4,084.85	714.97	1,033.32	.....	6,475.05
Total sales, January, 1923	739.50	10,532.39	1,031.15	1,305.60	454.49	14,063.13
Total sales, December, 1922	474.62	11,293.25	1,557.49	859.64	573.17	14,758.17
Total sales, January, 1922	474.40	12,320.07	4,082.16	1,324.62	69.30	13,185.41

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of January, 1923, as compared with December, 1922, and with January, 1922:

NUMBER OF LOCKAGES.

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Jan., 1923.	Dec., 1922.	Jan., 1922.
Gatun	153	188	341	7	4	11	352	303	219
Pedro Miguel	149	175	324	12	17	29	353	316	239
Miraflores	154	187	341	12	16	28	369	324	225
Number of vessels put through locks.									
Gatun	158	198	356	14	13	27	383	340	268
Pedro Miguel	158	194	352	26	27	53	405	374	290
Miraflores	158	194	352	25	37	62	414	369	286

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
Army and Navy vessels	20	20	31
Canal equipment	7	33	31

The total consumption of water for lockages, maintenance and loss in leakage during the month of January, 1923, was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,362,220,000	1,140,660,000	1,100,070,000
Leakage	25,000,000	22,200,000	20,000,000
Maintenance	.....	.....	.....
Total consumption, January, 1923	1,387,220,000	1,162,860,000	1,120,070,000
Total consumption, December, 1922	1,223,470,000	1,105,770,000	979,880,000
Total consumption, January, 1922	861,680,000	877,770,000	760,150,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorologic and hydrographic conditions over the Canal Zone and vicinity during the month of January, 1923, are shown in comparative form:

Rainfall.	January, 1923.	January, 1922.	January—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific Section	.55	2.46	3.13	.01	1.13
Central Section	1.33	5.01	5.01	.18	1.60
Atlantic Section	2.54	9.48	12.61	.62	4.08
Maximum recorded on any one day	1.37	3.62	[1] 10.86	.....	.....
Gatun Lake watershed	1.98	5.86	5.86	.52	2.09
Chagres River watershed above Alhajuela	2.32	6.92	12.10	.38	3.15
Maximum recorded for month at any one point	4.25	11.26	22.32	.....	.....
Minimum recorded for month at any one point	.02	1.24	.....	.....	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	1,992	4,339	5,050	682	2,063
Maximum momentary discharge for the month	5,604	29,100	[2] 170,000	.....	.....
Gatun Lake watershed	3,123	9,298	9,298	1,371	3,118
Gatun Lake watershed net yield	2,363	8,641	8,641	769	2,433
Draft on Gatun Lake for lockages and power	2,302	2,001	2,505	[3] 987	[3] 1,878

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28, and 29, 1909. [2] Maximum momentary discharge on record, December 26, 1909. [3] Not including 1914.

SEISMOLOGY.

Slight tremors from a distant disturbance were recorded on the morning of January 22.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	January, 1923.	December, 1922.	January, 1922.
Gross output, KWH:			
Gatun hydroelectric station	4,784,500	4,549,600	4,611,800
Miraflores steam plant	.....	120	280
Power distributed to consumers ..... KWH	4,119,223	3,909,408	4,122,618
Loss of power in plant auxiliaries, transmission and transformation ..... KWH	665,277	640,312	689,462
Per cent of loss of power to gross output	13.9	14.07	14.32
Water consumption ..... cubic feet	3,622,991,356	3,572,276,155	3,657,240,000
Oil consumption ..... barrels	1,487	1,258	1,881

SHOP, FOUNDRY AND DRY DOCK WORK.

Miscellaneous repairs were made during the month on 40 vessels at Cristobal, and 41 vessels at Balboa. Of these, 4 were placed in dry dock at Cristobal, and 4 at Balboa. The more important items of repair work performed during the month included the following:

New engines were installed and general repairs made to the motorship *Chiralite*.

On the steamship *Clan MacWilliam* a remarkable welding job was performed. As a result of a broken piston rod, the 73-inch diameter low pressure cylinder of the main engine was wrecked, a section being broken out of the cylinder wall about 10 feet long and 2 feet deep; this section being fractured into four pieces. The cylinder head was also broken into bits, as well as the stuffing box, and a considerable crack developed in the cylinder walls. Instead of following the customary procedure of casting a steel piece and welding it into the walls to replace the break, in order to save time, a successful attempt was made to replace the pieces broken out and weld them in position. A steel form was accurately machined to fit the inside of the cylinder and the pieces were held in place against it by jacks. They were secured in proper vertical relation by being clamped to a steel flange ring which was secured to the unharmed portion of the cylinder flange. The weld was entirely successful. A new piston rod was made, a new cylinder head cast and machined, the crack in the cylinder wall and the broken stuffing box welded, and incidental repair work was done on the engine. So far as can be ascertained, the weld is one of the largest cylinder welds in marine history. Over 500 pounds of welding wire was used, nearly a cubic foot of metal was actually deposited in the weld, drop by drop, and, before the advent of welding, the length of time required to cast or obtain a new cylinder and fit it into place would have required as many months as the weld took weeks.

The output of the foundry in patterns and castings during the month of January, 1923, as compared with December, 1922, was as follows:

	January, 1923.			December, 1922.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	13	204	34,945	5	256	24,243
Steel	2	347	21,269	1	83	14,729
Nonferrous	4	285	5,171	7	403	3,394

The following is a statement of all job and blanket orders issued and completed during January, 1923:

	Uncompleted January 1.	Authorized in January.	Completed in January.	Uncompleted January 31.
Job orders	401	598	571	428
Blanket orders	347	2	1	348

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	January, 1923.	December, 1922.	January, 1922.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	738,501,500	685,469,000	663,058,500
Filtration plants	427,685,000	397,091,000	392,676,000
Water consumed by Panama City	91,982,000	90,626,000	85,076,000
Water consumed by Colon	64,649,750	64,251,250	52,321,500
Sales of water to vessels	9,368,692	8,392,605	10,249,580

DREDGING.

The slide which occurred at East Culebra in December, 1922, has been quiescent during the month. West Culebra slide has shown but slight movement. Two dipper dredges were engaged at East Culebra slide in the channel and basin, removing slide material for the first 10 days of the month. On the 11th of the month the dredge *Gamboa* was removed to the La Pita Point improvement project; the dredge *Cascadas* continued working at the East Culebra slide the remainder of the month. A total of 161,550 cubic yards of material had been removed from the prism, and a grand total of 378,300 cubic yards from the basin and prism at East Culebra slide since the slide occurred on December 21, 1922. All other slides, including Cucaracha, have been quiescent during the month. There was no interruption in traffic due to slides during the month. The total excavation during January, 1923, including earth and rock, was 686,600 cubic yards, distributed as follows:

Cubic yards.	Classified as—		Character of work.	Station.	Equipment.
	Earth.	Rock.			
				Gaillard Cut.	
139,150	52,400	86,750	Maintenance	East Culebra slide	*Cascadas.*
19,700	11,800	7,900	Maintenance	East Culebra slide	*Gamboa.*
92,400	32,700	59,700	Maintenance	East Culebra slide	*Paraiso.*
44,350	2,200	42,150	Maintenance	La Pita improvement project	*Gamboa.*
				Pacific Entrance.	
391,000	391,000	.....	Maintenance	East side of Canal	*No. 86.*
686,600	490,100	196,500			

The material excavated at the various stations was disposed of as follows:

	Cubic yards.
Dumped in Gatun Lake, north of Gamboa	295,600
Dumped on west side of Canal, Pacific entrance	391,000
Total	686,600

VITAL STATISTICS.

A total of 137 deaths occurred during the month of January, 1923, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 13.45 per thousand. The leading causes of death were: tuberculosis 26, pneumonia (broncho and lubar) 16, diarrhea and enteritis 14, organic diseases of the heart 9, nephritis (acute and chronic) 8.

Of the total deaths, 51, or 37 per cent, occurred among children under 5 years of age. There were 16 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 300 live births reported during the month, and 22 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 31.60 per thousand population. Deaths among children under 1 year of age numbered 34, giving an infant mortality rate of 113.33 per thousand live births.

Eighteen cases of malaria were reported from Panama, 4 from Colon, 160 from the Canal Zone, and 26 originated outside of our sanitated area. Of these cases 51 were employees, 84 nonemployees and 73 were Army and Navy. There were 5 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of January 31, 1922.			Comparative totals.		
	Men.	Women.	Children.	January, 1923.	December, 1922.	January, 1922.
Americans	2,345	1,899	1,977	6,221	6,209	6,358
Europeans	86	26	70	182	197	244
West Indians	4,136	2,694	5,939	12,769	12,522	12,697
Totals, January, 1923	6,567	4,619	7,986	19,172	.....	.....
Totals, December, 1922	6,463	4,570	7,895	.....	18,928	.....
Totals, January, 1922	7,098	4,448	7,753	.....	.....	19,299

WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of January 17, 1923, with a comparison of the working force on December 20, 1922, and January 18, 1922:

	As of January, 17, 1923.			Total employees.	
	Gold.	Silver.	Total.	December, 1922.	January, 1922.
Operation and Maintenance:					
Office	25	36	61	60	71
Electrical	143	160	303	282	294
Municipal Engineering	74	535	609	601	613
Lock Operation	186	617	803	782	853
Dredging	133	793	926	916	765
Mechanical	317	553	870	865	965
Marine	157	416	573	557	498
Fortifications	29	133	162	134	290
Totals	1,064	3,243	4,307	4,197	4,349
Supply Department:					
Quartermaster	129	898	1,027	1,026	953
Subsistence	7	90	97	87	238
Commissary	155	784	939	917	1,039
Cattle Industry—Plantations	6	279	285	143	360
Hotel Washington	8	87	95	93	85
Transportation	35	139	174	170	183
Totals	340	2,277	2,617	2,436	2,858
Accounting Department	178	8	186	190	187
Health Department	216	716	932	921	949
Executive Department	469	254	723	723	736
Totals	863	978	1,841	1,834	1,872
Panama Railroad Company:					
Superintendent	46	238	284	288	294
Transportation	62	103	165	167	182
Receiving and Forwarding Agency	65	656	721	915	920
Coaling Stations	80	439	519	821	539
Totals	253	1,436	1,689	2,191	1,935
Grand totals, January, 1923	2,520	7,934	10,454	.....	.....
Grand totals, December, 1922	2,519	8,139	.....	10,658	.....
Grand totals, January, 1922	2,691	8,323	.....	.....	11,014

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month of January, 1923, as compared with December, 1922, and with January, 1922, are shown below in comparative form:

	January, 1923.	December, 1922.	January, 1922.
Material received on United States requisitions, chargeable as follows:			
Operation and Maintenance	$201,602.60	$201,087.56	$76,817.53
Miscellaneous departments	1,675.12	4,007.55	861.65
Totals	203,277.72	205,095.11	77,679.18

	January, 1923.	December, 1922.	January, 1922.
Cash sales on the Isthmus:			
Stock	$24,399.29	$23,985.63	$23,094.88
Fuel oil	90.93	1,787.43	7,541.19
Scrap	2,302.59	843.70	173.77
Obsolete and second-hand material	1,015.74	7,656.95	5,265.23
Totals	27,808.55	34,273.71	36,075.07

Respectfully,

JAY J. MORROW,

Governor.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the three weeks ended February 26:

Steamships *Lake Francis*, turn commutator for generator; make 4 tube stoppers and turn tube expander to size; renew boiler tube; clean boiler tubes and fire boxes; repair 6 furnace doors and renew brick in I. B. furnace, port boiler, etc; yacht *Sonnica*, dock, sandpaper and paint bottom and topsides; paint interior as directed; wedge mast and caulk around windlass; manufacture 2 circulating pumps, cowl ventilator, and repack stern tube, etc.; steamships *Ceres*, repair steering chains and manufacture compressor rod for ice machine; *Bologna*, electric weld boiler; manufacture spring and 4 sets of pump valves, etc.; *Salvador*, test and repair refrigerator evaporator and condenser coils; renew couplings on brine discharge pipe; repair stokehold ventilator, main and tween deck hatches, galley bunker and guard plates over deck steam pipes; manufacture 3 tarpualins; paint ladies bath and assistant purser's cabin; renew deck eye bolt and iron belaying pins for lifeboats, etc.; *Ganemydes*, manufacture new gear and fit to shaft for anchor windlass; U. S. A. T. *U. S. Grant*, clean boilers and roll tubes; manufacture new copper pipe and repair 1 copper pipe and cover with asbestos; *Huallaga*, rebabbitt and machine dynamo bearing; *Balboa*, manufacture platform for gangway ladder; *Almagro*, manufacture 1 shackle pin; weld new end on eyebolt and manufacture new nut for same; *Amsterdam*, repair bulkhead of forepeak tank and patch No. 1 bulkhead; clean out forepeak tank, bilges, cofferdam between forepeak and No. 1 tank and tanks Nos. 1 and 2 and test same; repack all manhole covers in No. 1 hold; refasten stanchion and angle irons; remove sheathing and hatch battens for repairs to forepeak; renew sheathing and hatch battens in bilges and ceiling over tank tops; clean tank tops and paint with bitumastic; clean and repair bilge piping and recover pipes with asbestos, etc.; *General W. C. Gorgas*, repair winch connecting rod and fit new wheel to fire hydrant; furnish air and hose for cleaning main condenser; caulk bridge and boat decks; furnish 6 men with air tools for scaling; *Edgar Bowling*, repair steering gear; tug *Supply No. 1*, repair or renew 1 piston and manufacture 1 set of piston rings complete; repair leaky joints in oil, air, and water lines; submarine U. S. S. *O-9*, manufacture thrust collars as sample; launch *Gargoyle*, yacht *Poinsettia*, schooner *Arabia*, steamships *Balboa*, *Newport*, *Selma City*, *General O. H. Ernst*, *City of Auckland*, and *Vandyke*, minor repairs.

Report of Cargo Discharged and Laded from Vessels Entering and Clearing from Port of Balboa for Week Ending February 24, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Haimon	Roland Steamship Line	February 18	February 18	18	.....
Colombia	Pacific Mail Steamship Co.	February 18	February 19	126	.....
Torba Linda	General Petroleum S. S. Corp.	February 19	February 20	10,000	.....
Akera	Anglo-Saxon Petroleum Co., Ltd.	February 21	February 22	6,864	.....
U. S. S. Arctic	U. S. Navy	February 22	.....	2,000	.....
Salvador	Pacific Steam Navigation Co.	February 22	February 22	.....	27
Buenos Aires	Johnson Line	February 23	February 24	191	.....
Ecuador	Pacific Mail Steamship Co.	February 23	February 23	1	.....
Ansaldo San Giorgio II	Societa Nazionale di Navigazione	February 23	February 23	37	.....

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending February 24, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Adalia	Hamburg-American Line		February 11		48
Targis	Roland Line	February 11	February 11	53	(2)
Buenos Aires	Spanish Line		February 12		575
Santa Marta	United Fruit Co	February 11	February 13	(2)	217
Ansaldo San Giorgio II	Societa Nazionale di Navigazione	February 12	February 14	113	(1)
Dinteldijk	Holland-American Line	February 12	February 13	142	25½
Santa Rosa	Grace Line	February 12	February 14	478	179¾
Huasco	Chilean Line	February 12	February 15	294	801
Gen. G. W. Goethals	Panama Railroad Steamship Line	February 13	February 14	610	37
Gen. O. H. Ernst	Panama Railroad Steamship Line	February 13	February 14	322	(1)
Haiti	French Line	February 13	February 15	44	280
San Gil	United Fruit Co	February 14	February 14	17	435
Sixaola	United Fruit Co	February 14	February 15	470	413
Parismina	United Fruit Co	February 14	February 15	840	(1)
Colon	Panama Railroad Steamship Line	February 14		2,443	
Ceres	Royal Netherlands W. I. Mail Line	February 14	February 15	89	(1)
Lochkatrine	Pacific Steam Navigation Co	February 14	February 15	(2)	59
Salvador	Pacific Steam Navigation Co	February 15		1,112	
Almelo	Royal Netherlands W. I. Mail Co	February 15	February 16	224	34
Pastores	United Fruit Co	February 16	February 17	221	216
Breda	Royal Netherlands W. I. Mail Co	February 16	February 17	118	208
Coronado	Elders & Fyffes, Ltd	February 17	February 17	28	(3)
Oriana	Pacific Steam Navigation Co	February 17		27	
Oriana	Pacific Steam Navigation Co		February 18		104
Orita	Pacific Steam Navigation Co	February 18	February 18	2	81
Saramacca	United Fruit Co	February 18	February 18	¼	366
San Juan	Pacific Mail Steamship Co	February 18		1,612	
Alvarado	Pacific Steam Navigation Co	February 18	February 19	135	57
Colombia	Pacific Mail Steamship Line	February 19	February 20	447	678
Oranje Nassau	Royal Netherlands W. I. Mail	February 20	February 21	134½	13
Cartago	United Fruit Co	February 20	February 22	871	98
Salvador	Pacific Steam Navigation Co		February 22		581
Huallaga	Peruvian Line	February 20	February 25	283	653
Carrillo	United Fruit Co	February 21	February 22	189	220
Abangarez	United Fruit Co	February 22	February 22	12	84
Sixaola	United Fruit Co	February 22	February 22	6	¾
Ecuador	Pacific Mail Steamship Line	February 22	February 23	204	251
Mineola	Grace Line	February 22	February 23	110	160
Balboa	Compania Costanera Colombiana	February 22	February 24	528	(1)
Ulua	United Fruit Co	February 23	February 24	138	94
Santa Olivia	Grace Line	February 24		160	
Oranje Nassau	Royal Netherlands W. I. Mail	February 24	February 24	5	473
Ansaldo San Giorgio II	Societa Nazionale di Navigazione	February 24	February 24	37	(1)
San Benito	United Fruit Co	February 24	February 24	38	137

[1] No cargo laded. [2] No cargo discharged. [3] 7 packages.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Gen. W. C. Gorgas	February 15	February 21	February 24	March 1	March 4	March 9.
Panama	February 24	March 1	March 4	March 9	March 12	March 16.
Cristobal[1]	March 5	March 10	March 13	March 19	March 22	March 26.
Gen. W. C. Gorgas	March 15	March 21	March 24	March 30	April 2	April 7.
Panama	March 24	March 29	April 1	April 9	April 12	April 16.
Cristobal [1]	April 4	April 9	April 12	April 18	April 21	April 25.
Gen. W. C. Gorgas	April 14	April 20	April 23	April 29	May 2	May 7.
Panama	April 25	April 30	May 3	May 9	May 12	May 16.
Cristobal [1]	May 5	May 10	May 13	May 19	May 22	May 26.
Gen. W. C. Gorgas	May 15	May 21	May 24	May 29	June 1	June 6.
Panama	May 25	May 30	June 2	June 9	June 12	June 16.

Steamers sail at 3 p. m. from Pier 67, North River, foot of West 27th St., New York.
[1] Sails 3 p. m. from pier 65, North River, foot of West 25th St.

WEST COAST SERVICE.

In addition, a regular freight service is maintained direct to Buenaventura and Ecuadorian ports by the steamships *General O. H. Ernst* and the *General G. W. Goethals*, and other steamers.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 24, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Willpolo	17	20.50	18	6.30	18	14.05	18	15.20	American	Williams Steamship Co	386.8	52.2	22.0	New York	Los Angeles	General mdse	4,781	5,680	4,080
Oriana	17	8.15	18	7.35	18	15.14	18	16.20	British	Pacific Steam Navigation Co	465.7	56.0	23.9	Liverpool	Coronel	General	3,367	8,620	5,345
H. M. Storey	18	8.55	18	9.20	18	15.56	18	21.47	American	Standard Oil Co	500.0	68.2	21.6	New York	Los Angeles	Ballast		11,224	7,849
Haimon	18	12.40	18	12.45	18	20.20	19	13.05	German	Roland Line	361.0	44.8	20.2	Antwerp	Guayaquil	General	1,009	4,350	3,117
Eldorado	18	16.50	19	6.20	19	13.39	19	15.20	American	Western Transport Co	245.0	42.0	20.6	New Orleans	Los Angeles	General	2,717	2,439	1,662
Charles Pratt	18	19.18	19	7.35	19	14.50	19	17.42	American	Standard Oil Co	500.0	68.0	21.0	New York	Los Angeles	Ballast		10,313	7,492
Fred W. Weller	18	19.10	19	8.25	19	16.10	19	17.25	American	Standard Oil Co	500.0	68.0	20.0	New York	Los Angeles	Ballast		10,928	7,832
Pennsylvanian	18	20.20	19	8.58	19	16.58	20	0.22	American	American-Hawaiian Line	407.7	53.7	27.3	Liverpool	Los Angeles	General	7,142	7,107	4,916
Marore	19	6.45	19	9.35	19	17.44	19	18.50	American	Ore Steamship Co	550.3	72.2	22.6	Baltimore	Cruz Grande	Ballast		15,551	4,297
Benjamin Brewster	19	10.00	19	10.35	19	18.44	19	19.56	American	Standard Oil Co	411.6	53.2	19.0	Habana	Talara	Ballast		6,177	4,244
Humphreys [1]	19	7.35	19	11.00	19	19.09			American	U. S. Navy	310.0	31.0	11.6	Norfolk	Balboa				
Vesta	19	9.35	19	11.15	19	19.20	19	20.26	Dutch	Royal Netherlands W. I. Mail	270.3	38.1	13.0	Amsterdam	Guayaquil	Ballast		2,134	1,378
Lena Luckenbach	19	10.40	19	11.55	19	20.05	20	11.00	American	Luckenbach Line	425.0	53.8	28.0	Galveston	Tacoma	General	7,575	7,217	5,295
Grant [2]	17	22.47	19	12.45	19	20.55	19	22.07	American	U. S. Army	490.0	55.0	27.0	New York	San Francisco	Household goods	2,225	10,282	7,027
Birmingham [3]	19	6.22	19	14.05	20	9.58	21	9.57	American	U. S. Navy	420.0	49.0	19.8	Mobile	Balboa				
Santa Tecla	19	19.32	20	7.32	20	14.23	20	19.37	American	Grace Line	298.6	40.0	16.6	New York	Pacasmayo	General	1,170	2,832	1,803
Craster Hall	19	22.58	20	7.10	20	16.19	20	17.35	American	U. S. Steel Products Co	380.0	50.0	26.0	New York	Seward	Steel products	5,440	4,945	3,508
Thomas P. Beal	20	3.03	20	8.05	20	18.12	20	19.25	American	Crowell & Thurlow	394.0	55.0	24.0	Baltimore	Los Angeles	General	6,866	7,047	5,100
Hurunui	20	6.45	20	8.47	20	18.56	20	20.10	British	New Zealand Shipping Co	470.0	62.6	25.0	Avonmouth	Auckland	General	7,400	10,174	7,237
Manchester Civilian	20	7.35	20	9.35	20	19.55	20	20.55	British	Manchester Lines, Ltd	385.0	52.0	16.3	New York	San Antonio	General	1,094	5,302	3,772
Kayo Maru	20	11.30	20	11.50	20	20.33	21	8.27	Japanese	Toyo Kisen Kaisha	400.0	53.0	25.9	New York	Yokohama	(6)	6,011	6,186	4,446
Ganymedes	19	7.00	21	6.10	21	14.09	21	15.20	Dutch	Royal Netherlands W.I. Mail	365.0	48.0	20.6	Newport	Callao	Coal and coke	3,792	4,214	3,123
Pacific	21	6.35	21	7.05	21	16.19	21	21.30	American	Argonaut Steamship Co	399.7	56.2	26.0	Baltimore	San Diego	General	8,149	6,479	4,709
Endicott	20	22.58	21	11.55	21	19.02	21	20.08	American	Barber Steamship Line (S. B.)	402.0	54.8	26.8	New York	Yokohama	General	6,941	6,929	5,182
Mundale	21	13.37	22	6.30	22	15.20	22	16.09	American	Mundale Steamship Co	358.0	44.9	23.8	Texas City	Seattle	Crude sulphur	4,500	3,769	2,506
Salvador	15	22.50	22	7.32	22	15.47	22	19.53	British	Pacific Steam Navigation Co	215.0	35.4	13.3	Cristobal	Champerico	General mdse	587	1,270	735
Buenos Aires [4]	22	15.08	23	6.25	23	13.33	24	11.47	Swedish	Johnson Line	426.9	56.2	24.0	Gothenborg	Seattle	General	7,154	7,591	5,661
Ecuador	22	5.38	23	7.25	23	15.28	23	23.30	American	Pacific Mail Steamship Co	380.6	48.7	23.6	New York	San Francisco	General	2,500	5,926	4,178
J. W. VanDyke	22	23.08	23	7.51	23	16.13	23	17.20	American	Atlantic Refining Co	435.0	56.0	22.0	Philadelphia	Los Angeles	Ballast		7,460	5,215
Steel Ranger	22	20.25	23	8.35	23	17.43	23	18.50	American	U. S. Steel Products Co	424.2	56.2	26.5	New York	Seattle	General, steel	8,500	7,611	5,450
Cold Harbor	23	4.36	23	9.20	23	18.41	23	23.30	American	N. Atl. & West. S. S. Co. (S. B.)	390.0	54.0	25.0	Portland	Los Angeles	General	3,944	6,167	4,290
Standard	23	6.19	23	10.20	23	19.33	23	20.38	American	Standard Oil Co	523.0	68.0	19.0	New York	Los Angeles	Ballast		12,171	8,673
Proteus [5]	23	7.05	23	11.30	24	10.55			American	U. S. Navy	500.0	62.0	30.0	Hampton R'ds	Balboa	Coal and general	10,543		
Cheyenne	23	7.30	24	6.22	24	13.24	24	14.35	British	Anglo-American Oil Co	388.0	50.0	15.0	London	San Francisco	Ballast		5,245	3,650
Northern Star	23	20.40	24	7.30	24	15.06	24	19.15	American	American Star Line	386.8	52.0	23.0	New York	Los Angeles	General	6,230	5,682	4,086

[1] Destroyer. [2] Transport. [3] Cruiser. [4] Motor ship. [5] Collier. [6] Sulphate of ammonia, machinery, merchandise, and black pipe.

Alda	24	2.00	24	8.00	24	16.10	24	17.45	German	Roland Line	360.0	51.2	20.0	Hamburg	Corral	General	2,780	4,791	3,392
Balboa	22	15.29	24	8.05	24	16.18	24	17.45	Colombian	Compania Costancia Colombiana	190.0	29.1	10.0	Cristobal	Buenaventura	Ballast		737	335
Orinoco	24	2.47	24	8.47	24	20.15	24	21.25	American	Orinoco Steamship Co	376.0	52.0	18.0	New York	Los Angeles	General	3,500	5,455	3,902
Sudurco	24	2.49	24	8.55	24	21.05	24	22.28	American	Submarine Boat Corporation	324.0	46.0	22.6	New Orleans	Los Angeles	General	4,026	3,987	2,636
W. C. Teagle	24	7.05	24	9.35	24	22.08	24	23.25	American	Standard Oil Co	499.0	68.0	20.0	Charleston	Los Angeles	Ballast		10,588	7,511
Cherry Branch	24	8.45	24	10.30	24	22.55	25	0.11	British	Nautilus Steamship Co	400.0	51.10	20.0	Liverpool	Valparaiso	General	1,215¾	5,403	3,967
Haleakala	24	11.38	24	12.05	24	19.20	25	13.10	American	Interisland Steam Nav. Co	345.0	45.0	22.0	Philadelphia	Honolulu	General	469	4,297	2,158

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Orita	17	16.15	18	6.54	18	13.48	18	20.19	British	Pacific Steam Navigation Co	485.4	48.2	28.0	Valparaiso	Liverpool	General	7,110	9,936	6,561
Benrinnes	17	19.40	18	7.56	18	15.40	18	17.25	British	William Thompson & Co	405.0	51.5	20.2	Suva	United King.	Copra	4,532	5,057	3,476
Trontolite	17	19.50	18	9.15	18	17.18	18	17.18	British	Imperial Oil Co	420.8	57.0	28.0	Talara	New York	Oil	9,000	7,240	4,945
Alvarado	18	16.30	18	9.51	18	16.53	19	13.57	British	Pacific Steam Navigation Co	303.0	43.0	15.0	Guayaquil	New York	General	885	2,844	1,750
San Juan	17	17.35	18	10.53	18	18.05	27	8.20	American	Pacific Mail Steamship Co	283.0	37.0	16.8	San Francisco	Cristobal	General	1,597	2,379	1,793
Dix	17	19.35	18	11.35	18	18.57	18	18.57	American	R. Dollar Line	436.4	52.1	25.3	Port Alberm.	New York	General, lumber	7,122	7,014	5,214
Agwibay	17	19.47	18	12.11	18	20.37	18	20.37	American	New York & Cuban Mail	408.3	62.7	29.0	San Pedro	Baltimore	Oil	12,500	9,776	7,124
Georgian	17	23.00	18	12.57	18	21.45	18	21.45	American	United American Lines	386.8	52.2	23.7	Seattle	New York	General	6,460	5,719	4,023
Arna	18	11.30	18	14.25	18	23.25	19	0.40	Norwegian	Kunhle & Co	410.0	54.0	24.8	Iquique	Savannah	Nitrate	8,851	6,258	4,744
Cleveland	.....	.....	19	6.40	20	9.40	20	18.35	American	U. S. Navy	309.0	44.0	17.0	Balboa	Cristobal	.....	.....	.....	.....
Colombia	18	7.41	19	7.15	19	15.35	20	15.57	American	Pacific Mail Steamship Co	380.0	48.7	23.6	San Francisco	New York	General	3,050	6,015	4,281
Lord Ormonde	18	13.00	19	8.46	19	17.00	19	20.30	British	Lord Ormonde Steamship Co	360.0	46.0	21.6	SantoDomingo	New York	General	6,078	4,563	3,406
El Condado	19	5.30	19	9.44	19	18.10	20	6.47	Spanish	General Navigation Co	330.0	49.0	20.8	Iquique	Bilbao	Nitrate	4,950	3,730	2,637
Zabalbide	19	5.00	19	9.52	19	18.27	19	18.27	Spanish	Maritima de Bilbao	331.0	47.0	21.0	Guaymas, Tex	Bilbao	Beans	4,289	3,418	2,180
Mundelta	19	3.30	19	11.00	19	19.32	19	19.32	American	Munson Line	397.0	53.6	25.0	Portland	New York	Lumber	5,725	5,668	4,297
Santa Teresa	19	9.15	19	11.43	19	18.40	19	22.46	American	Grace Line	360.2	51.6	22.8	Talcahuano	New York	General	3,475	5,726	4,086
Patuxent	19	.....	18	15.30	.....	.....	.....	.....	American	U. S. Navy	156.0	24.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Sherman	19	15.00	20	6.52	20	15.10	20	16.20	American	Sherman Steamship Co	400.3	45.3	25.0	Antofagasta	Baltimore	Nitrate, copper	6,000	5,037	3,492
Huallaga	19	11.00	20	7.53	20	14.48	25	12.02	Peruvian	Peruvian Line	360.0	44.7	17.0	Callao	Cristobal	General	224	4,514	2,386
Kambangan	19	24.00	20	8.24	20	16.40	20	22.20	Dutch	Nederland Steamship Co	430.0	55.0	28.0	Antofagasta	English chan.	Nitrate	8,057	7,197	5,000
Cacique	20	8.00	20	10.09	20	17.44	20	21.41	American	Grace Line	394.2	52.3	29.0	Iquique	Savannah	Nitrate, sugar	8,800	6,652	4,913
W. S. Rheem	20	4.51	20	10.40	20	19.25	20	19.25	American	Standard Oil Co	500.0	68.2	31.0	Los Angeles	New York	Oil	14,000	11,224	7,860
Paul Luckenbach	20	11.55	20	12.32	20	20.56	20	20.56	American	Luckenbach Line	471.1	59.2	25.0	Seattle	New York	General	6,000	9,027	6,539
Santa Clara	20	18.15	21	6.59	21	14.35	21	17.30	American	Pacific Mail Steamship Co	404.6	54.0	28.4	Puget Sound	Baltimore	General	7,600	6,760	4,450
Middlemoor	20	20.00	21	8.20	21	15.55	21	18.09	British	Ruciman & Co	339.0	48.0	21.8	Taltal	Fayal?	Nitrate	5,124	4,022	2,931
Royal Arrow	21	6.15	21	8.36	21	16.40	21	16.40	American	Standard Transport Co	467.6	62.7	23.0	Manila	New York	Coconut oil	3,474	9,699	6,895
F. H. Hillman	21	10.00	21	10.46	21	19.31	22	5.45	American	Standard Oil Co	500.0	68.2	29.0	San Francisco	London	Gasoline	14,000	11,225	7,913
Atholl	21	13.00	21	14.03	21	21.30	21	23.35	British	Andrew Weir & Co	385.5	48.7	24.0	Iquique	Cristobal?	Nitrate	4,294	4,830	3,556
David McKelvy	21	14.25	22	7.05	22	14.18	22	14.18	American	Tide Water Oil Co	430.0	59.2	27.0	Los Angeles	New York	Oil	11,000	7,629	5,393
Balboa	21	17.40	22	8.05	22	15.09	24	8.05	Colombian	Campania Costanera	190.0	29.0	14.0	Tumaco	Cristobal	General	527	736	335
Aegina	15	17.45	22	8.06	22	15.07	24	21.40	German	Roland Line	330.0	45.0	14.0	Corinto	.....	Ballast	.....	3,529	2,532
Charlton Hall	21	22.30	22	8.51	22	16.40	22	16.40	American	Isthmian Steamship Line	400.0	50.0	25.0	Vancouver	Liverpool	General	6,000	5,714	4,161
Mineola	22	2.50	22	9.35	22	17.06	23	18.40	American	Grace Line	293.6	40.0	16.7	Salaverry	New York	General	1,450	8,508	6,179
F. J. Luckenbach	22	2.30	22	10.15	22	17.32	22	17.32	American	Luckenbach Line	446.0	56.7	22.0	Portland	Mobile	General	2,304	2,935	1,805
Herman Frasch	22	4.00	22	10.37	22	19.12	22	19.12	American	Union Sulphur Co	356.0	51.6	24.0	Vancouver	New York	Lumber	5,010	5,349	2,950
J. C. Donell	22	4.00	22	11.35	22	20.57	22	22.30	American	Atlantic Refining Co	500.0	68.2	29.0	San Pedro	Philadelphia	Oil	17,000	10,436	7,900
Siberian Prince	22	6.00	22	12.35	22	22.30	22	23.55	British	Furness Prince Line	421.0	56.0	24.11	Vancouver	Hull	General	7,950	6,267	4,565

? For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Diadem	22	6.00	22	13.36	22	23.17	23	6.35	British	Hall Brothers	389.4	54.0	24.0	Mejillones	Cristobal[7]	Nitrate	7,707	5,918	4,142
Patuxent			22	15.00	22	22.00			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
A. L. Kent	23	6.40	23	7.18	23	15.07	23	20.05	American	Crowell & Thurlow	394.1	55.1	27.0	San Francisco	Baltimore	General	2,300	7,047	5,030
Sunbeam	23	4.01	23	10.46	23	18.20	23	18.20	American	Sun Oil Co	429.3	59.2	26.0	Los Angeles	Chester	Oil	10,800	7,701	5,472
Royalstar	22	21.00	23	12.57	23	20.15	23	20.15	British	Blue Star Line	450.0	58.0	24.0	Seattle	London	General	5,000	8,561	5,814
Ansaldo San Giorgio III	23	21.00	24	6.53	24	15.27	24	20.50	Italian	Societa Nazionale di Navigazione	377.2	51.6	21.0	Valparaiso	Genoa	General	5,686	5,591	3,975
Java	23	20.50	24	8.16	24	16.25	24	19.55	Dutch	Netherlands Steamship Co	370.0	48.6	23.3	Iquique	United King.	Nitrate	6,000	5,071	3,615
Petricola	23	18.00	24	12.14	24	21.02	24	21.02	British	Anglo-Saxon Petroleum Co	412.0	53.0	24.0	San Francisco	Lands End	Gasoline	7,523	6,331	4,422
Neponset	24	11.10	24	12.25	24	21.05	24	21.50	American	Elder & Mettnacht	450.0	57.6	21.0	Seattle	New York	General	4,246	7,893	5,621
Byron D. Benson	24	5.00	24	13.53	24	23.03	24	23.03	American	Tidewater Oil Co	465.4	60.2	28.0	San Pedro	New York	Oil	12,000	8,546	6,095

[7] For orders.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
February 18.	Saramacca	United Fruit Co	Bocas del Toro.
February 18.	Abangarez	United Fruit Co	New Orleans.
February 18.	Vandyck	Lamport & Holt	New York.
February 20.	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.
February 20.	Cartago	United Fruit Co	New Orleans via wayports.
February 21.	Carrillo	United Fruit Co	New York via Kingston.
February 21.	Canopus	U. S. Navy	Hampton Roads.
February 22.	Abangarez	United Fruit Co	Bocas del Toro.
February 22.	Sixaola	United Fruit Co	Colombian ports.
February 23.	Ulua	United Fruit Co	New York via wayports.
February 24.	San Benito	United Fruit Co	Port Limon.
February 24.	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
February 18	Saramacca	United Fruit Co	New Orleans.
February 19	Vandyck	Lamport & Holt	Cartagena.
February 19	Cristobal	Panama Railroad Steamship Line	New York via Haiti.
February 19	Abangarez	United Fruit Co	Bocas del Toro.
February 21	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
February 22	Cartago	United Fruit Co	New Orleans via wayports.
February 22	Carrillo	United Fruit Co	Colombian ports.
February 22	Abangarez	United Fruit Co	New Orleans.
February 23	Sixaola	United Fruit Co	New York via Kingston.
February 24	Ulua	United Fruit Co	New York via wayports.
February 24	San Benito	United Fruit Co	Boston.
February 24	Oranje Nassau	Royal Netherlands W. I. Mail Co	Amsterdam via wayports.

PORT OF BALBOA.

February 19.	Yorba Linda	General Petroleum Co	San Pedro.
February 21.	Akera	Anglo-Saxon Petroleum Co	San Pedro.
February 22.	U. S. S. Farquhar	U. S. Navy	San Diego.
February 22.	U. S. S. Arctic	U. S. Navy	San Diego.

February 20	Yorba Linda	General Petroleum Co	San Pedro.
February 23	Akera	Anglo-Saxon Petroleum Co	San Pedro.

* Other than ships passing through the Canal.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective February 15, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	3.50
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.75
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Official Circular.

Sales of Material.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., February 23, 1923.

CIRCULAR No. 630-9:

Paragraph 5 of Circular No. 630-8, dated July 13, 1922, is hereby amended to read as follows:

5. Surplus and obsolete material and equipment, after having been regularly surveyed and appraised, may be sold at prices approved by the Governor without surcharge. The General Storekeeper is authorized to effect the sale of such articles at a discount of not more than 25 per cent of the appraised value where the original costs of the articles to be sold at such discount does not exceed $500. Such sales at a discount where the appraised value of the articles exceeds $100 should be made only in case of emergency and all such sales must be reported to the Governor at the end of each month for his approval. Articles appraised at less than $100 and on hand in the obsolete storehouse more than 3 months, may be sold for not less than 50 per cent of the appraised value in the discretion of the General Storekeeper.

JAY J. MORROW,
Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requislte equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships bullt, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Motor Car Passenger Service, Panama-Paraiso.

The time table for the Panama Railroad motor car passenger service between Panama and Paraiso is to be revised, effective Thursday, January 11, 1923, 5 a. m., and the daily service will be as follows:

Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.		Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.	Ex.
P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave Arrive	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
11.45	9.15	7.10	4.25	3.00	11.40	9.30	7.50	.. Paraiso	6.55	9.20	11.30	2.50	4.15	7.00	9.10	11.05
11.50	9.20	7.15	4.30	3.05	11.45	9.35	7.55	.Pedro Miguel.	6.52	9.17	11.27	2.47	4.12	6.57	9.07	11.02
11.54	9.24	7.19	4.34	3.09	11.49	9.39	7.59	...Red Tank..	6.49	9.14	11.24	2.44	4.09	6.54	9.04	10.59
11.57	9.27	7.22	4.37	3.12	11.52	9.42	8.02	.Miraflores L'ks	6.46	9.11	11.21	2.41	4.06	6.51	9.01	10.56
12.00	9.30	7.25	4.40	3.15	11.55	9.45	8.05	.Fort Clayton.	6.44	9.09	11.19	2.39	4.04	6.49	8.59	10.54
A. M.					P. M.											
12.05	9.35	7.30	4.45	3.20	11.59	9.50	8.10	...Corozal....	6.39	9.04	11.14	2.34	3.59	6.44	8.54	10.49
12.07	9.37	7.32	4.47	3.21	12.01	9.52	8.12	... Diablo ...	6.34	8.59	11.09	2.29	3.54	6.39	8.49	10.44
12.10	9.40	7.35	4.50	3.25	12.05	9.55	8.15	Balboa Heights	6.32	8.57	11.07	2.27	3.52	6.37	8.47	10.42
12.15	9.45	7.40	4.55	3.30	12.10	10.00	8.20	..Panama	6.25	8.50	11.00	2.20	3.45	6.30	8.40	10.35
A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	Arrive Leave	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., March 7, 1923. No. 30.

Record Number of Transits During February.

A new high record for number of transits was established during February when 425 vessels of all kinds, exclusive of Canal equipment, passed through the Canal. This exceeds by 50 the previous high record for transits established during January, 1923, when 375 vessels transited the Canal.

The detail of the month's traffic was as follows:

	No. of transits.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
Commercial vessels.				
Atlantic to Pacific	175	840,376	$733,122.37	563,439
Pacific to Atlantic	151	689,171	690,831.84	99,839
Total commercial traffic	326	1,529,547	1,423,954.21	1,563,278
Noncommercial vessels.				
U. S. Navy:				
Atlantic to Pacific	86	[1] 392,375	([2])	38,579
Pacific to Atlantic	6	[1] 32,110	([2])	472
U. S. Army:				
Atlantic to Pacific	1	[3] 5,153	([2])	2,225
Pacific to Atlantic	1	[3] 3,919	([2])	626
Small launches, etc.:				
Atlantic to Pacific	3	17	$17.55	.....
Pacific to Atlantic	1	1	.75	.....
Vessel transiting Canal for repairs	1	4,222	([2])	.....

[1] Displacement tonnage. [2] Free. [3] Registered net tonnage.

DAILY AVERAGE HIGHER THAN JANUARY.

With the exception of January, 1923, the month's commercial traffic was the greatest to have used the Canal to date. The average daily number of transits and average daily receipts from tolls were the highest of any calendar month to date, but owing to February having but 28 days the aggregate monthly totals were slightly under January's figures.

The following statement shows the average daily traffic figures for the month, as compared with the preceding month, and with February a year ago:

AVERAGE DAILY TRAFFIC—COMMERCIAL VESSELS ONLY.

	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	Tolls.
February, 1923	11.64	54,627	55,760	$50,855.51
February, 1922	7.57	31,662	29,574	30,938.08
January, 1923	11.35	51,958	51,352	48,557.60

INTERCOASTAL TRAFFIC EXCEEDS THAT OF ANY PREVIOUS MONTH.

The United States intercoastal traffic exceeded that of the preceding month, and is the heaviest to have passed through the Canal to date.

(Continued on page 387)

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 3, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Harry Luckenbach	24	20.56	25	6.15	25	15.29	25	16.28	American	Luckenbach Line	448.9	60.2	24.0	New York	Los Angeles	General	6,000	9,262	6,853
Rotarian	24	11.20	25	7.30	25	16.28	25	17.45	American	Weissel, Duval & Co. (S. B.)	380.0	52.0	16.7	New York	Paita	General	1,418	5,660	4,059
Jose	24	18.53	25	7.33	25	13.41	25	18.00	Peruvian	Luis Liano	330.5	46.6	12.0	Millesboro'gh	Callao	Ballast		3,824	2,697
Henry S. Grove	24	22.20	25	8.00	25	17.36	25	21.45	American	Argonaut Steamship Corp	494.0	53.9	28.0	Baltimore	Bellingham	General	8,500	6,755	4,688
S. M. Spalding	21	23.33	25	8.30	25	18.56	25	20.21	American	Pan-American Pet. & Trans. Co.	435.0	56.0	19.0	Providence	Los Angeles	Ballast		7,331	5,080
E. T. Bedford	24	23.48	25	9.05	25	19.35	25	20.48	American	Standard Oil Co	499.0	68.1	20.0	New York	Los Angeles	Ballast		11,020	7,995
G. Harrison Smith	25	3.58	25	10.18	25	20.34	25	21.41	British	International Petroleum Co	550.0	72.0	24.8	New York	Los Angeles	Ballast		15,476	11,102
Robert Luckenbach	25	7.12	25	11.05	25	21.28	25	22.40	American	Luckenbach Line	445.0	58.0	29.0	Philadelphia	Los Angeles	General	9,500	8,617	6,297
Huallaga	20	14.48	25	12.02	25	22.25	25	23.50	Peruvian	Peruvian Line	360.0	44.0	20.6	Cristobal	Callao	General	653	4,514	2,386
Cauca	8-3-22	15.05	25	11.55	25	22.34	25	23.50	British	Pacific Steam Navigation Co	246.0	35.0	15.0	Cristobal	Acajutla	Ballast		1,589	1,018
Santa Olivia	2-21	7.10	25	12.35	25	23.10	26	0.22	American	Grace Line	404.6	53.9	25.6	Baltimore	Tacoma	General	5,681	6,779	4,921
Oregonian	25	19.35	26	6.25	26	16.36	26	17.35	American	American-Hawaiian Line	406.8	51.1	26.0	Baltimore	Portland	General	6,567	5,959	4,203
West Greylock	25	22.03	26	7.35	26	17.30	26	23.50	American	Frank V. Barnes	430.7	54.3	29.0	New York	San Francisco	General	9,913	7,946	5,698
Spirila	26	6.52	26	8.09	26	18.17	26	19.05	British	Anglo-Saxon Petroleum Co	411.5	53.4	18.6	Bristol	San Francisco	Ballast		6,119	4,304
Knight Templar	26	10.20	26	11.20	26	19.08	26	20.20	British	Ocean Steamship Co	470.0	58.0	25.6	Glasgow	Tacoma	General	9,291	8,120	5,808
San Juan	18	18.05	27	6.12	27	14.22	28	2.10	American	Pacific Mail Steamship Co	283.0	37.0	16.10	Cristobal	San Francisco	General	1,456	2,379	1,593
Almagro	25	12.45	27	6.15	27	14.26	27	19.08	British	Pacific Steam Navigation Co	393.0	43.0	18.0	New York	Guayaquil	General, coal	2,316	2,878	1,714
Luceric	27	6.30	27	7.10	27	15.30	27	16.55	British	Andrew Weir & Co	412.5	55.5	25.3	New York	Manila	General	6,550	6,913	4,866
District of Columbia	27	6.45	27	8.15	27	16.22	27	17.27	American	Walker & Daly (S. B.)	431.0	59.2	22.0	Mobile	Los Angeles	Ballast		8,097	5,362
Raranga	27	20.07	28	6.25	28	17.29	28	18.33	British	Shaw, Savill & Albion Co	477.0	63.0	27.6	Antwerp	Auckland	Phosphates	6,000	11,070	7,931
James McGee	27	17.23	28	7.15	28	18.11	28	19.03	American	Standard Oil Co	499.0	68.0	19.0	New York	Los Angeles	Ballast		10,964	7,909
A. C. Bedford	26	20.17	28	7.30	28	19.17	28	20.43	American	Standard Oil Co	500.0	68.0	27.0	Baton Rouge	Los Angeles	Ballast		10,896	7,615
Livingston Roe	27	17.30	28	9.10	28	20.11	28	21.12	American	Standard Oil Co	462.0	60.0	19.0	Campana	Los Angeles	Ballast		8,491	6,065
Kentucky	27	22.24	28	9.35	28	21.05	28	22.27	British	Ellerman & Bucknell	447.3	56.0	25.0	New York	Dunedin	General	5,887	7,825	5,921
Atlantic Maru	28	7.55	28	10.19	28	21.51	28	23.55	Japanese	Kabushiki Kaisha Kawasiki	385.0	51.0	18.8	Grangemouth	San Antonio	Coke	4,500	6,251	4,700
Diana Dollar	28	8.03	28	11.10	28	22.53	1	7.20	American	Robert Dollar Line	429.0	55.2	24.0	Baltimore	San Francisco	General	7,407	7,582	5,521
Edgar Bowling	26	12.40	28	12.40	28	23.47	1	4.20	American	Garland Steamship Corp	410.0	54.0	24.0	Norfolk	Los Angeles	General	6,957	6,567	4,909
Geo. H. Jones	28	12.20	1	6.50	1	19.48	1	20.48	American	Standard Oil Co	429.3	59.2	18.0	New York	Los Angeles	Ballast		7,689	5,519
Santa Luisa	28	13.20	1	7.05	1	20.46	1	21.50	American	Grace Line	360.2	51.6	22.0	New York	Talara	General, cement	1,617	5,694	3,975
Dacre Castle	28	19.08	1	8.05	1	21.48	1	23.20	British	James Chambers	399.0	52.0	27.7	New York	Manila	General	5,384	5,846	4,112
Amsterdam	25	6.35	1	8.35	1	22.41	1	23.51	Dutch	Royal Netherlands W. I. Mail	475.0	65.6	18.10	Amsterdam	Chile	Ballast		11,647	8,217
Imperial	26	14.12	1	9.15	1	20.55	1	21.58	Chilean	Chilean Line	336.8	41.2	23.6	Cristobal	Valparaiso	General	736	3,296	2,156
Port Stephens	1	5.08	1	10.32	1	23.42	2	0.43	British	Commonwealth & Dom. Line	440.0	55.0	22.8	New York	Brisbane	General	7,000	7,812	5,706

Darien	2-28	19.00	1	10.15	1	19.42	3	10.20	Panaman	Obarrio & Co	92.0	26.0	7.0	Cristobal	Buenaventura	Ballast	.....	169	50
John D. Rockefeller	1	5.00	1	11.40	2	0.38	2	0.30	American	Standard Oil Co	458.3	60.0	22.8	Genoa	Los Angeles	Ballast	.....	8,633	6,362
Munindies	1	14.51	2	6.30	2	13.56	2	15.00	American	Munson Steamship Co	370.0	53.0	20.8	Baltimore	Seattle	General	5,200	5,527	4,099
Essequibo	1	5.46	2	7.25	2	15.48	2	18.09	British	Pacific Steam Navigation Co	450.0	57.0	23.6	New York	Valparaiso	General	1,582	9,099	6,117
Levant Arrow	1	18.25	2	7.55	2	16.43	2	17.55	American	Standard Transportation Co	468.0	62.7	28.0	Sabine	Yangtse River	Petroleum	11,200	9,744	7,039
Hororata	1	14.40	2	8.55	2	17.39	2	18.45	British	New Zealand Shipping Co	511.1	64.1	30.3	Liverpool	Brisbane	General	10,718	12,623	8,763
Nevada	1	19.10	2	9.10	2	18.47	2	20.07	French	French Line	420.0	56.0	24.0	Havre	Vancouver	General	2,142	7,500	5,403
Indian City	1	23.00	2	10.20	2	19.40	3	0.11	British	W. R. Smith & Sons	411.7	54.5	24.0	Port Arthur	Melbourne	General	6,700	6,512	4,665
Houma	2	4.50	2	10.50	2	20.35	2	22.05	American	McAllister Brothers (S. B.)	434.8	56.2	19.0	New York	Los Angeles	Ballast	.....	7,425	5,168
Vancouver Maru	2	5.08	2	12.05	2	21.15	2	22.30	Japanese	Kakusai Kisen Kaisha	385.0	51.0	14.10	New York	Mejillones	Ballast	.....	5,919	4,389
Marie Maersk	2	8.10	2	12.00	2	21.58	2	23.25	Danish	A. P. Moller	362.2	51.4	15.0	Tampa	Taltal	Ballast	.....	4,971	3,428
Muskogee	2	7.30	2	12.50	2	23.10	3	0.19	American	Standard Oil Co	450.9	57.9	20.0	New York	Los Angeles	Ballast	.....	.....	.....
Commercial Spirit	2	11.15	2	12.55	3	0.09	3	0.17	American	Commercial Spirit Steamship Co.	380.4	53.1	23.6	Baltimore	Los Angeles	Coal and general	5,300	5,659	4,138
T. J. Williams	2	15.19	3	6.20	3	13.45	3	15.0	American	Standard Oil Co	465.0	60.0	23.0	Charleston	Los Angeles	Ballast	.....	8,585	6,087
Stanley	2	16.00	3	7.15	3	15.12	3	21.37	American	Barber Line (S. B.)	401.7	54.2	22.0	New York	Manila	General	6,529	6,933	5,187
F. O. Barstow	3	3.40	3	8.18	3	16.19	3	17.2.	American	Standard Oil Co	500.0	68.2	18.4	New York	Los Angeles	Ballast	.....	10,526	7,711
Pennyworth	3	6.50	3	8.47	3	17.01	3	18.0.	British	Dalglish Steamship Co	410.2	53.5	16.6	New York	Tocopilla	Ballast	.....	6,179	4,387
Mayebashi Maru	3	7.10	3	9.35	3	18.17	3	19.19	Japanese	Nippon Yusen Kaisha	445.0	58.0	25.9	New York	Kobe	General, steel	8,469	8,012	5,749
Felix Taussig	3	11.00	3	11.35	3	19.12	3	20.22	American	Crowell & Thurlow	395.0	55.1	26.0	Boston	Seattle	General, steel	7,803	6,594	4,503

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Monticillo	24	15.50	25	7.04	25	15.35	25	19.45	American	United American Lines	468.5	58.5	25.7	Seattle	Hamburg	General	9,946	7,975	5,412
Norman Monarch	24	19.00	25	8.01	25	16.45	25	18.00	British	Kinsley Line	400.6	52.2	24.6	Mejillones	New Orleans	Nitrate	7,710	5,568	4,146
Gymeric	24	19.00	25	8.30	25	17.05	26	12.35	British	Andrew Weir & Co	420.3	54.6	25.8	San Francisco	London	Gasoline	8,571	6,501	4,459
Argosy	25	6.00	25	9.51	25	18.00	25	20.40	American	Wessel, Duval & Co	390.0	54.2	25.0	Iquique	U. S. ports	Nitrate	7,401	6,203	4,280
Mexican	25	8.00	25	10.50	25	18.51	25	18.51	American	United American Lines	472.3	57.2	30.0	Seattle	New York	General	9,000	9,258	6,789
Imperial	25	10.30	26	7.16	26	14.12	1	9.15	Chilean	Chilean Line	336.8	41.2	19.0	Valparaiso	Cristobal	General	219	3,296	2,156
Brazos	.....	.....	26	7.49	26	15.05	26	15.05	American	U. S. Government	475.0	56.0	20.10	Balboa	Port Arthur	Ballast	.....	.....	.....
Tekoa	24	18.28	26	8.41	26	16.55	26	19.20	British	New Zealand Steamship Co	460.6	62.9	24.0	Wellington	Liverpool	General	6,354	10,259	7,092
San Francisco	25	21.00	26	10.03	26	18.00	26	18.45	American	Isthmian Steamship Co	405.0	51.9	25.6	San Diego	London	General	6,700	6,186	4,449
Saint Louis	26	4.00	26	10.55	26	19.00	27	12.07	French	French Line	398.0	51.0	24.0	Valparaiso	Bordeaux	General	5,780	5,857	4,166
Samuel Q. Brown	26	1.30	26	11.26	26	19.55	26	19.55	American	Tidewater Oil Co	424.0	58.2	28.0	San Pedro	New York	Oil	10,000	7,333	5,246
Luise Nielsen	26	16.00	27	6.55	27	14.15	27	16.40	Norwegian	Wessel, Duval & Co	409.6	54.0	24.0	Tocopilla	.....	Nitrate	8,410	6,617	4,834
Gold Shell	27	2.25	27	8.04	27	15.45	27	15.45	American	Asiatic Petroleum Co	411.6	53.4	25.6	Los Angeles	Curacao	Oil	7,546	6,201	4,336
Alaska	27	6.00	27	8.54	27	16.54	28	10.11	French	French Line	425.0	55.0	25.0	Vancouver	Havre	General	7,824	6,990	4,854
Evriken	27	6.00	27	9.40	27	18.00	27	23.00	Norwegian	Haakum J. Wallem	420.0	54.0	28.6	Antofagasta	Charleston	Nitrate	10,500	6,979	5,131
Huguenot	27	7.15	27	13.09	27	21.30	28	7.30	American	McAllister Bros	434.0	56.2	25.11	San Pedro	New York	Oil	8,843	7,394	5,099
Agwimex	27	10.00	28	6.55	28	15.35	28	15.35	American	Ward Line	480.5	66.0	.....	San Pedro	Boston	Oil	13,907	9,394	6,310
Katrina Luckenbach	27	21.20	28	7.15	28	16.15	28	16.15	American	Luckenbach Line	446.0	56.0	27.6	Seattle	Boston	General	7,355	8,508	6,170
Benjamin Brewster	27	23.30	28	8.35	28	17.02	28	17.02	American	International Petroleum Co	411.6	53.2	26.3	Talara	Havana	Oil	7,800	6,177	4,244

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Acajutla	28	8.40	28	9.17	28	17.48	6	11.00	British	Pacific Steam Navigation Co.	215.7	33.5	17.0	Champerico	Cristobal	General	1,073	1,273	706
Lydia	28	4.00	28	9.33	28	17.41	28	18.18	American	Susquehana Line	366.0	45.0	23.6	Gray Harbor	New York			4,620	3,343
Panaman	28	6.20	28	10.29	28	18.45	28	18.45	American	United American Lines	407.7	53.7	23.6	Seattle	New York	General	5,100	7,098	5,029
Victolite	28		28	11.08	28	20.07	28	20.07	British	Imperial Oil Co	499.7	68.0	29.7	Talara	Halifax	Oil	14,770	11,049	7,774
Darien	27	16.30	28	11.19	28	19.00	1	10.15	Panaman	Obarrio & Co	92.0	26.0	7.0	Buenaventura	Cristobal	Coffee	125	169	50
Commercial Guide	28	1.00	28	14.54	28	22.93	1	6.30	American	Moore & McCormack	406.7	55.2	26.0	Tacoma	New York	Lumber	5,000	6.597	4,752
Ribera	28	14.30	1	7.02	1	15.15	1	17.00	British	F. Bolton & Co	400.0	51.0	24.0	Iquique	Pensacola	Nitrate	6,500	5,469	4,042
Sandpiper			1	7.06	1	14.55			American	U. S. Navy	221.9	34.6		Balboa	Cristobal				
Sirus	24	20.25	1	7.46	1	15.23	4	9.00	American	U. S. Navy	401.7	54.0	18.3	San Diego	Hampton Rds.	Naval stores	11		
Argonne	26	12.15	1	9.00	1	16.03	1	23.35	American	U. S. Navy	448.0	58.0	20.11	San Francisco	Philadelphia	General	29		
Artigas	28	14.00	1	9.57	1	17.35	1	17.35	American	North Atlantic & Western Line	390.0	54.2	24.5	Seattle	Philadelphia	General, lumber	5,896	6,204	4,314
Manavi	1	.50	1	10.01	1	17.50			British	Pacific Steam Navigation Co.	216.0	35.1	13.8	Guayaquil	Cristobal	General	580	1,357	884
Frankenwald	28	19.00	1	10.04	1	18.43	1	18.43	German	Hamburg-American Line	349.0	54.0	26.0	Corral	Hamburg	Nitrate	7,432	6,575	4,490
Cuyama	26		1	10.38	1	19.20	1	19.20	American	U. S. Navy	475.0	56.0	26.0	San Diego		Oil			
Neches	26		1	11.30	1	20.12	1	20.12	American	U. S. Navy	475.0	56.0	26.0	San Diego	Port Arthur	Ballast			
Agwisea	1	2.15	1	12.55	1	21.19	1	21.19	American	Ward Line	468.3	62.7	27.0	Los Angeles	New York	Oil	12,570	9,802	7,087
Highlandheater	1	10.00	1	13.40	1	22.21	1	23.05	British	Royal Mail Steam Packet Co.	390.1	52.0	21.8	Seattle	Southampton	General	2,858	6,275	4,549
Astynax	1	10.30	1	14.32	1	23.50	2	9.30	British	Ocean Steamship Co	390.0	49.0	23.6	Vancouver	Liverpool	General	5,898	5,165	3,211
Agwistone	1	17.15	2	6.58	2	17.00	2	17.00	American	Ward Line	499.9	68.1	28.0	Los Angeles	New York	Oil	13,780	10,600	8,071
Jason			2	7.57	2	17.18	2	17.18	American	U. S. Navy	535.0	65.0	17.10	Balboa	Cristobal				
Teno	2	7.15	2	8.47	2	18.10	3	3.35	Chilean	Chilean Line	421.0	56.0	27.0	Valparaiso	New York	General	5,108	7,757	4,672
Bengkalis	2	9.15	2	11.09	2	19.30	3	6.20	Dutch	Netherlands Steamship Co	430.0	54.6	27.7	Iquique	Eng. channel	Nitrate	8,046	6,964	5,019
Balboa	2	13.00	2	14.07	2	11.10			Colombian	Compania Costanera Colombiana	190.0	29.1	15.0	Buenaventura	Cristobal	Coffee, hides	487	736	335
Ansgir	3	4.15	3	8.50	3	16.08	3	17.15	German	Roland Line	403.0	54.0	24.0	Corral	Rotterdam	General	6,256	6,541	4,532
Chuky	25		3	13.48	3	20.42	3	20.42	British	Chilean Line	440.8	56.0	26.3	Tocopilla	Tampico	Ballast		7,690	4,723

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
February 25	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
February 25	Atenas	United Fruit Co	New Orleans via Habana.
February 26	St. Mihiel [1]	U. S. Army	New York.
February 27	San Bruno	United Fruit Co	Boston via Habana.
February 27	Heredia	United Fruit Co	New Orleans via Habana.
February 28	Tivives	United Fruit Co	New York via Kingston.

*DEPARTURES.

Date.	Vessel.	Line.	For—
February 27	Atenas	United Fruit Co	New Orleans via wayports.
February 28	Heredia	United Fruit Co	New Orleans via wayports.
February 28	San Bruno	United Fruit Co	Boston via Port Limon.
March 1	Tivives	United Fruit Co	Colombian ports.
March 1	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
March 1	Adalia	Hamburg-American Line	Cartagena.

[1] Transport.

February 28	Adalia	amburg-American Line	Puerto Barrios and Port Limon.
March 1	Meganitc	White Star Line	New York via wayports.
March 1	Macoris	French Line	Havre via wayports.
March 1	Carrillo	United Fruit Co	Colombian ports.
March 2	Empress of Britain	Canadian Pacific Line	New York via wayports.
March 2	Toloa	United Fruit Co	New York via wayports.
March 2	Mercian	Leyland Line	Liverpool via wayports.
March 3	Camito	Elders & Fyffes, Ltd	Port Limon.
March 3	Santa Marta	United Fruit Co	New Orleans via Habana.
March 1	Carrillo	United Fruit Co	New York via Kingston.
March 2	St. Mihiel	U. S. Army	New York via San Juan.
March 2	Megantic	White Star Line	New York via wayports.
March 3	Macoris	French Line	Havre via wayports.
March 3	Empress of Britain	Canadian-Pacific Line	New York via wayports.
March 3	Toloa	United Fruit Co	New York via wayports.
March 3	Camito	Elders & Fyffes, Ltd	Kingston.
March 3	Mercian	Leyland Line	Kingston.

PORT OF BALBOA.

February 16	Colon	Panama Railroad Steamship Line	Cristobal.
February 25	Conia	Shell Oil Co	San Francisco.
February 26	Rosana	Fait & Co	Puntarenas, Costa Rica.
February 27	Santa Maria	Union Oil Co	Port San Luis.
March 1	Remus	Latin-American Line	Valparaiso.
March 2	Conus	Anglo-Saxon Petroleum Co	San Pedro.
February 27	Conia	Shell Oil Co	Los Angeles.
February 28	Santa Maria	Union Oil Co	Port San Luis.
March 2	Remus	Latin-American Line	Los Angeles.
March 4	Rosana	Fait & Co	Buenaventura.
March 4	Conus	Anglo-Saxon Petroleum Co	Los Angeles.

* Other than ships passing through the Canal.

PORT OF BALBOA—ATLANTIC FLEET.

ARRIVALS.

Vessel.	Line.	From—
U. S. S. Prometeur	U. S. Navy	Guantanamo.
U. S. S. Contocook	U. S. Navy	Guantanamo.
U. S. S. Iowa (obsolete)	U. S. Navy	Guantanamo.
U. S. S. Quail	U. S. Navy	Guantanamo.
U. S. S. Bridgeport	U. S. Navy	Guantanamo.
U. S. S. Maryland	U. S. Navy	Guantanamo.
U. S. S. Rochester	U. S. Navy	Guantanamo.
U. S. S. Shawmut	U. S. Navy	Guantanamo.
U. S. S. Lark	U. S. Navy	Guantanamo.
U. S. S. Trinity	U. S. Navy	Guantanamo.
U. S. S. Bushnell	U. S. Navy	Guantanamo.
U. S. S. Wyoming	U. S. Navy	Guantanamo.
U. S. S. Delaware	U. S. Navy	Guantanamo.
U. S. S. Utah	U. S. Navy	Guantanamo.
U. S. S. North Dakota	U. S. Navy	Guantanamo.
U. S. S. Nevada	U. S. Navy	Guantanamo.
U. S. S. Bobolink	U. S. Navy	Guantanamo.
U. S. S. Vireo	U. S. Navy	Guantanamo.
U. S. S. Rail No. 26	U. S. Navy	Guantanamo.
U. S. S. Relief	U. S. Navy	Guantanamo.
U. S. S. Teal No. 23	U. S. Navy	Guantanamo.
U. S. S. Wright	U. S. Navy	Guantanamo.
U. S. S. Savannah	U. S. Navy	Guantanamo.
U. S. S. Beaver	U. S. Navy	Guantanamo.

ARRIVALS.

Vessel.	Line.	From—
U. S. S. Mallard	U. S. Navy	Guantanamo.
U. S. S. Rappahannock	U. S. Navy	Guantanamo.
U. S. S. Robin No. 3	U. S. Navy	Guantanamo.
U. S. S. Oil Barge No. 32	U. S. Navy	Guantanamo.
U. S. Destroyers Nos.:		
283	U. S. Navy	Guantanamo.
281	U. S. Navy	Guantanamo.
282	U. S. Navy	Guantanamo.
284	U. S. Navy	Guantanamo.
285	U. S. Navy	Guantanamo.
286	U. S. Navy	Guantanamo.
288	U. S. Navy	Guantanamo.
290	U. S. Navy	Guantanamo.
292	U. S. Navy	Guantanamo.
293	U. S. Navy	Guantanamo.
294	U. S. Navy	Guantanamo.
295	U. S. Navy	Guantanamo.
326	U. S. Navy	Guantanamo.
327	U. S. Navy	Guantanamo.
329	U. S. Navy	Guantanamo.
100	U. S. Navy	Guantanamo.
102	U. S. Navy	Guantanamo.
232	U. S. Navy	Guantanamo.
238	U. S. Navy	Guantanamo.

MOVEMENTS OF OCEAN VESSELS—Continued.

PORT OF BALBOA.—ATLANTIC FLEET.—continued.

ARRIVALS.			ARRIVALS.		
Vessel.	Line.	From—	Vessel.	Line.	From—
U. S. Destroyers—*Continued*:			U. S. Submarines—*Continued*:		
241	U. S. Navy	Guantanamo.	O-16	U. S. Navy	Guantanamo.
243	U. S. Navy	Guantanamo.	O-11	U. S. Navy	Guantanamo.
336	U. S. Navy	Guantanamo.	O-12	U. S. Navy	Guantanamo.
304	U. S. Navy	Guantanamo.	R-21	U. S. Navy	Guantanamo.
U. S. Submarines:			R-23	U. S. Navy	Guantanamo.
O-4	U. S. Navy	Guantanamo.	R-22	U. S. Navy	Guantanamo.
O-1	U. S. Navy	Guantanamo.	R-21	U. S. Navy	Guantanamo.
O-2	U. S. Navy	Guantanamo.	R-25	U. S. Navy	Guantanamo.
O-3	U. S. Navy	Guantanamo.	R-26	U. S. Navy	Guantanamo.
O-6	U. S. Navy	Guantanamo.	R-27	U. S. Navy	Guantanamo.
O-8	U. S. Navy	Guantanamo.	S-1	U. S. Navy	Guantanamo.
O-9	U. S. Navy	Guantanamo.	S-19	U. S. Navy	Guantanamo.
O-10	U. S. Navy	Guantanamo.	S-20	U. S. Navy	Guantanamo.
O-13	U. S. Navy	Guantanamo.	S-30	U. S. Navy	Guantanamo.
O-14	U. S. Navy	Guantanamo.	S-33	U. S. Navy	Guantanamo.
O-15	U. S. Navy	Guantanamo.			

PACIFIC FLEET.

U. S. S. California	U. S. Navy	San Diego.	U. S. Submarines.—*Continued*:		
U. S. S. New Mexico	U. S. Navy	San Diego.	R-3	U. S. Navy	San Diego.
U. S. S. Tennessee	U. S. Navy	San Diego.	R-4	U. S. Navy	San Diego.
U. S. S. Idaho	U. S. Navy	San Diego.	R-5	U. S. Navy	San Diego.
U. S. S. New York	U. S. Navy	San Diego.	R-7	U. S. Navy	San Diego.
U. S. S. Oklahoma	U. S. Navy	San Diego.	R-8	U. S. Navy	San Diego.
U. S. S. Arizona	U. S. Navy	San Diego.	R-10	U. S. Navy	San Diego.
U. S. S. Pennsylvania	U. S. Navy	San Diego.	U. S. S. Melville	U. S. Navy	San Diego.
U. S. S. Mississippi	U. S. Navy	San Diego.	U. S. S. Altair	U. S. Navy	San Diego.
U. S. S. Nevada	U. S. Navy	San Diego.	U. S. S. Delphy No. 281	U. S. Navy	San Diego.
U. S. S. Mercy	U. S. Navy	San Diego.	U. S. Destroyers Nos.:		
U. S. S. Vestal	U. S. Navy	San Diego.	296	U. S. Navy	San Diego.
U. S. S. Arctic	U. S. Navy	San Diego.	297	U. S. Navy	San Diego.
U. S. S. Kanawha	U. S. Navy	San Diego.	298	U. S. Navy	San Diego.
U. S. S. Cardinal	U. S. Navy	San Diego.	299	U. S. Navy	San Diego.
U. S. S. Kingfisher	U. S. Navy	San Diego.	300	U. S. Navy	San Diego.
U. S. S. Term	U. S. Navy	San Diego.	301	U. S. Navy	San Diego.
U. S. S. Brant	U. S. Navy	San Diego.	302	U. S. Navy	San Diego.
U. S. S. Camden	U. S. Navy	San Diego.	303	U. S. Navy	San Diego.
U. S. Submarines:			304	U. S. Navy	San Diego.
R-1	U. S. Navy	San Diego.	305	U. S. Navy	San Diego.
R-2	U. S. Navy	San Diego.	306	U. S. Navy	San Diego.

Continued on page 392, column 2.

(Continued from page 381.)

The combined traffic in both directions made up 37.7 per cent of the total commercial transits; 43.2 per cent of the net tonnage, Panama Canal measurement; 41.9 per cent of the aggregate tolls, and 42.3 per cent of the total cargo. A considerable proportion of the vessels engaged in the intercoastal traffic were tankers.

The following statement shows the volume of intercoastal traffic passing in each direction through the Canal during February:

	No. of transits.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific	73	387,649	$325,425.65	238,622
Pacific to Atlantic	50	270,279	272,557.25	423,958
Total, intercoastal	123	657,928	597,982.90	661,580

Commercial Traffic Through the Panama Canal in February, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of of cargo.
United States intercoastal:							
United States	73	322,683	387,649	495,629	320,363	$325,425.65	238,622
From Europe to west coast of South America:							
Dutch	8	33,306	42,760	53,242	33,463	31,784.28	4,713
British	5	17,452	22,365	28,081	17,465	21,365.76	10,450
German	4	12,276	16,660	20,126	12,438	15,345.00	10,589
Japanese	1	4,348	4,700	5,873	4,254	5,435.00	4,500
Swedish	1	3,338	5,014	5,391	4,048	3,610.08	.....
Italian	1	3,303	4,013	5,493	3,241	4,128.75	800
Peruvian	1	2,341	2,697	3,445	2,214	2,926.25	.....
Spanish	1	1,896	2,310	3,811	2,784	1,003.20	.....
Totals	22	78,260	100,519	125,462	79,907	86,258.32	31,052
From east coast of United States to west coast of South America:							
United States	7	21,348	26,479	37,966	21,274	22,512.00	7,985
British	5	22,745	26,466	35,086	22,352	24,484.25	11,836
Norwegian	2	6,821	9,586	11,028	7,520	6,901.92	.....
Dutch	2	3,476	4,990	4,678	2,775	4,345.00	6,409
Danish	1	2,490	4,490	4,076	2,506	3,232.80	.....
Totals	17	56,880	72,011	92,834	56,427	61,475.97	26,230
From Europe to west coast of United States:							
British	7	29,437	35,056	44,911	28,282	31,998.94	22,806
United States	3	9,000	10,974	14,460	8,995	11,231.00	14,290
Swedish	1	3,406	5,661	5,642	4,320	4,257.50	7,154
German	1	2,975	4,888	4,951	2,952	3,718.75	7,500
Norwegian	1	3,003	3,886	4,894	3,054	3,753.75	5,100
Totals	13	47,821	60,465	74,858	47,603	54,959.94	56,856
From east coast of United States to Far East:							
United States	5	21,197	26,967	32,675	20,987	26,496.25	37,606
Japanese	5	16,741	20,685	26,889	16,863	20,926.25	25,607
British	3	14,046	16,061	22,364	14,086	17,557.50	20,438
Totals	13	51,984	63,713	81,928	51,936	64,980.00	83,651
From east coast of United States to Australasia:							
British	6	25,137	33,809	29,734	25,057	31,421.25	41,114
United States	1	4,445	4,415	5,838	4,493	5,298.00	7,010
Totals	7	29,582	38,224	45,572	29,550	36,719.25	48,124
From Europe to Australasia:							
British	6	32,886	42,558	50,705	31,934	39,445.50	32,649

ATLANTIC TO PACIFIC—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of of cargo.
From Cristobal, C. Z., to west coast of South America:							
Peruvian	2	2,193	4,791	7,708	3,604	$2,741.25	1,102
British	2	612	956	1,152	715	765.00	498
Colombian	2	668	670	1,728	1,228	652.50	1
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	790
Totals	7	5,284	9,599	14,386	7,819	6,422.50	2,391
From Cristobal, C. Z., to west coast of Central America:							
British	3	2,143	2,459	3,746	2,194	2,340.46	1,436
Panaman	1	31	50	171	31	36.00	.....
Totals	4	2,174	2,509	3,917	2,225	2,376.46	1,436
From east coast of Mexico to west coast of South America:							
British	2	8,760	9,827	14,672	8,545	10,950.00	19,196
From east coast of United States to west coast of Canada:							
United States	2	8,378	10,494	13,284	8,365	10,472.50	17,392
From Cristobal, C. Z., to west coast of United States:							
United States	2	2,986	3,756	4,796	2,963	3,732.50	2,924
Foreign vessel in ballast between United States ports:							
British	1	9,616	11,102	15,371	9,326	7,993.44	..
From Europe to west coast of Canada:							
Dutch	1	5,776	7,551	9,399	5,814	7,220.00	2,916
From east coast of South America to west coast of United States:							
United States	1	5,149	6,065	8,194	5,935	4,366.80	..
From east coast of Canada to west coast of South America:							
British	1	4,282	4,947	7,115	3,943	3,561.84	
From east coast of Mexico to west coast of United States:							
United States	1	4,203	5,041	6,703	4,203	3,629.52	.
From West Indies to west coast of South America:							
United States	1	3,649	4,244	5,950	3,677	3,055.68	..
From east coast of the United States to Balboa, C. Z.:							
United States	1	102	102	115	102	76.50	....
Totals, February, 1923	175	680,455	840,376	1,070,890	680,637	733,122.37	563,439
Totals, February, 1922	114	394,817	488,005	605,323	384,957	482,933.41	442,825
Totals, February, 1921	114	362,427	435,233	556,798	354,964	449,616.59	474,872

PACIFIC TO ATLANTIC.

United States intercoastal:							
United States	50	219,750	270,279	340,234	215,173	$272,557.25	423,958
From west coast of South America to east coast of United States:							
United States	11	40,832	49,833	63,786	40,955	51,040.00	75,059
British	7	24,109	30,602	39,737	24,139	30,136.25	46,030
Norwegian	5	19,653	24,749	29,461	19,082	24,361.55	46,554
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,195
Danish	1	2,552	2,581	3,297	2,121	3,097.20	4,908
Totals	25	90,285	111,812	141,457	89,527	112,558.75	180,746
From west coast of South America to Europe:							
British	7	23,554	28,867	35,132	21,943	29,257.60	43,433
Dutch	4	13,350	16,964	21,335	13,483	16,687.50	26,488
Italian	2	6,049	7,748	10,173	6,125	7,561.25	6,030
French	1	3,631	4,166	5,818	3,712	4,538.75	5,780
German	1	2,571	3,400	4,176	2,593	3,213.75	5,365
Peruvian	1	2,060	2,382	3,287	2,051	2,575.00	3,544
Spanish	1	1,916	2,637	3,030	1,918	2,395.00	4,950
Totals	17	53,131	66,164	82,951	51,825	66,228.85	95,590
From west coast of Canada to Europe:							
British	5	21,543	26,320	30,962	19,607	26,928.75	35,110
United States	2	7,715	9,537	13,165	8,822	9,643.75	15,946

PACIFIC TO ATLANTIC.—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of of cargo.
From west coast of Canada to Europe.—continued							
Japanese	1	4,357	4,400	5,857	4,259	$5,280.00	7,385
French	1	3,224	4,854	5,376	3,198	4,030.00	7,895
Totals	9	36,839	45,147	55,360	35,886	45,882.50	66,336
From west coast of United States to Europe:							
British	5	21,000	26,417	34,109	21,168	26,250.00	37,391
United States	3	14,154	18,382	22,837	14,097	17,692.50	30,764
Totals	8	35,154	44,799	56,946	35,265	43,942.50	68,155
From Australasia to Europe:							
British	5	23,305	28,683	37,035	24,438	29,131.25	27,836
Japanese	1	3,410	4,248	5,447	3,405	4,262.50	7,500
Totals	6	26,715	32,931	42,482	27,843	33,393.75	35,336
From west coast of Canada to east coast of United States:							
United States	7	25,616	33,487	39,884	25,304	32,020.00	45,642
From west coast of South America to Cristobal, C. Z.:							
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	514
Colombian	2	668	670	1,230	746	804.00	1,007
Panaman	2	62	100	351	314	77.50	213
Peruvian	1	1,204	2,386	4,403	2,090	1,505.00	283
Totals	7	5,020	8,494	12,511	7,055	6,244.00	2,017
From west coast of Central America to Cristobal, C. Z.:							
British	2	1,286	1,441	2,298	1,304	1,607.50	2,215
Panaman	1	69	69	123	72	51.75	.....
Totals	3	1,355	1,510	2,421	1,376	1,659.25	2,215
From west coast of Central America to Europe:							
German	2	2,586	3,852	4,380	2,605	3,228.04	1,310
Spanish	1	1,846	2,180	3,038	1,855	2,307.50	4,289
Totals	3	4,432	6,032	7,418	4,460	5,535.54	5,599
From west coast of United States to Cristobal, C. Z.:	2	2,986	3,756	4,796	2,963	3,732.50	3,072
From Far East to east coast of United States:							
United States	2	9,293	11,349	13,971	9,201	11,436.05	9,974
Japanese	1	3,468	4,301	5,220	3,159	4,335.00	6,315
Totals	3	12,761	15,650	19,191	12,360	15,771.05	16,289
From west coast of South America to West Indies:							
United States	2	7,298	8,488	11,900	7,354	9,122.50	15,500
From west coast of United States to east coast of South America:							
United States	1	6,195	8,443	10,534	6,195	7,743.75	4,262
From west coast of South America to east coast of Canada:							
British	1	7,673	7,774	10,825	7,443	9,328.80	14,770
From west coast of South America to east coast of Mexico:							
British	1	4,366	4,885	7,337	4,286	3,517.20	.....
From Australasia to east coast of United States:							
United States	1	4,530	4,561	5,840	4,497	5,473.20	1,735
From Far East to West Indies:							
British	1	3,298	4,487	5,466	3,357	4,122.50	7,000
From west coast of United States to West Indies:							
United States	1	4,276	4,336	5,614	3,420	5,203.20	7,546
From Australasia to east coast of Canada:							
British	1	3,475	4,127	5,448	3,336	4,343.75	2,070
From west coast of Central America to east coast of the United States:							
Norwegian	1	1,608	1,762	2,471	1,484	2,010.00	2,000
Local—Balboa to Cristobal:							
British	1	588	247	1,718	683	441.00	.....
Totals, February, 1923.	151	557,351	689,171	872,804	551,092	690,831.84	999,839
Totals, February, 1922.	98	315,731	398,530	499,713	315,169	383,332.77	395,249
Totals, February, 1921.	127	401,498	481,605	623,181	397,058	467,796.20	478,032

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 3, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Santa Olivia	Grace Line		February 25		20
San Juan	Pacific Mail Steamship Co.		February 27		1,403
Almagro	Pacific Steam Navigation Co.	February 25	February 27	202	507
Atenas	United Fruit Co.	February 25	February 27	(1)	141
Gen. W. C. Gorgas	Panama Railroad Steamship Line	February 25	March 1	1,614	2,720
A. C. Bedford	Standard Oil Co.	February 26	February 28	11,233	(2)
St. Louis	French Line	February 26	February 26	18	(2)
Imperial	Chilean Line	February 26	March 1	233	803
Heredia	United Fruit Co.	February 27	February 28	1,549	181
Alaska	French Line	February 27	February 28	83	(2)
San Bruno	United Fruit Co.	February 27	February 28	12	388
Darien	Pacific Metals Corporation	February 28	March 1	125	(2)
Adalia	Hamburg-American Line	February 28	March 1	526	(2)
Acajutla	Pacific Steam Navigation Co.	February 28		1,073	
Tivives	United Fruit Co.	February 28	March 1	126	408
Carrillo	United Fruit Co.	March 1	March 1	3	½
Nevada	French Line	March 1	March 2	44	92
Macoris	French Line	March 1	March 3	195	350
Essequibo	Pacific Steam Navigation Co.	March 1	March 2	475	72
Manavi	Pacific Steam Navigation Co.	March 1		580	
Mercian	Leyland Line	March 2		570	186
Toloa	United Fruit Co.	March 2	March 3	145	122
Teno	Chilean Line	March 2	March 3	1	(2)
Balboa	Compania Costancia de Colombiana	March 2		487	
Camito	United Fruit Co.	March 3	March 3	15	

[1] No cargo discharged. [2] No cargo laded.

Report of Cargo Discharged and Laded from Vessels Entering and Clearing from Port of Balboa for Week Ending March 3, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Conia	Shell Oil Co.	February 25	February 26	7,400	
Imperial	South American Line	February 25	February 26	44	
Rosana	Alberto Fait	February 26		227	30
U. S. S. Argonne	U. S. Navy	February 26		43	
San Juan	Pacific Mail Steamship Co.	February 27	February 27		64
Santa Maria	Union Oil Company of California	February 27	February 27	10,500	
Laura C. Hall	Pacific Metals Trans. Co., Ltd.	February 28	February 28	12	
U. S. S. Sirius	U. S. Navy	February 28	February 28	517	
Darien	A. B. Obarrio & Co.	February 28	February 28	10	
Darien	A. B. Obarrio & Co.	March 1	March 1		100
Remus	Latin-American Line	March 1	March 2	650	
Manavi	Pacific Steam Navigation Co.	March 1	March 1	1	
Conus	Anglo-Saxon Petroleum Co.	March 2		7,600	
Romulus	A. O. Lindvig	March 3		234	

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended February 12:

Yacht *Sonnica*, manufacture 2 eye-bolts; steamships *Selma City*, repair telemotor and steering gear; *Atlantic Maru*, repair steering gear; *Chuky*, dock and undock, clean bottom (underwater body); paint 2 coats of anticorrosive and 1 coat of anti-fouling; examine propeller blades, flange studs and nuts; dress one blade, take wedge of stern bearing; repair suction pipe for main heaters; lever on fresh water pump; dress fire-room tools; remake miscellaneous pipe joints in engine and boiler rooms; install miscellaneous pipefitting; grind in main stop valves; manufacture boiler zincs; inspect rudder; renew zincs at stern post; calk one seam on shell and miscellaneous small details to galley equipment and deck repairs; U. S. S. *Farquhar*, make repairs to shell plates and miscellaneous small items in wake of damage repairs; dock and undock; steamship *Colon*, dock and undocking, painting; reboilering and general repairs to the ship's hull and entire equipment of all divisions of the ship.

The following vessels were at the Cristobal shops for repairs during the week ended March 3:

Barge *No. 150*, clean and paint bottom, repair winch, clips, strongbacks, hatch coamings and ceiling; make manholes watertight; manufacture tarpaulins for hatches; steamships *Acajutla*, repair windlass exhaust pipe, sanitary discharge pipe, deck service pipe, galley scupper, cargo gins and blocks, and cargo scales; patch deck in galley and fit guard over deck steam pipe; caulk decks in seamen's and firemen's forecastle; *Essequibo*, manufacture 4 hydraulic pipes and 6 flanges for cranes and test pipes; *Manavi*, repair winch steam pipe, 3 oil feeders and manhole to tank; renew supporting angles for flooring plates in stokehold and patch 2 floors; rebrick galley stove; overhaul and adjust engine room telegraph and renew leading pully to bridge; manufacture 4 hatch tarpaulins and 4 net cargo slings, etc.; *Balboa*, dock, clean and paint; overhaul all sea valves and pack stern gland; repair fire tools; manufacture 8 springs and stud for main engine; rebabbitt after journal cap for main engine; renew 2 strainers and 2 boiler tubes; repair winch, fire tools, and 3 ventilators; grind in 2 safety valves and manufacture casting for back connection, etc; *Panama*, install 2 new cleats in hatch coamings and repair turnbuckle for foremast.

Supplement No. 9 to Tariff No. 6.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., February 26, 1923.

ITEM 32.—HOTEL WASHINGTON.

European Plan.

Adult Guests.

(Effective January 1, 1923.)

DAILY ROOM RATES.

Grade.	January to March, inclusive.		April to December, inclusive.	
	1 person.	2 persons.	1 person.	2 persons.
A	$8.00	$10.00	$6.00	$8.00

Grade.	Throughout the year.	
	1 person.	2 persons.
1	$5.00	$7.00
2	4.00	6.00
3	3.50	5.50
4	3.00	5.00
5	2.50	4.50

Special rates will be made for large parties and when necessary to place more than 2 persons in one room, and for stay of 30 days or more, and monthly rates; also for use of ballroom for dinner parties or dances.

ITEM 33.—HOTEL TIVOLI.

European Plan.

Adult Guests.

(Effective January 1, 1923.)

DAILY ROOM RATES.

Grade.	January to March, inclusive.		April to December, inclusive.	
	1 person.	2 persons.	1 person.	2 persons.
Parlor and bedroom	$12.00	$18.00	$10.00	$14.00
A	6.00	10.00	5.00	8.00
1	5.00	8.00	4.00	7.00
2	4.00	7.00	3.50	6.00
3	2.50	.....	1.50	.....

Special rates will be made for large parties and when necessary to place more than 2 persons in one room, and for stay of 30 days or more, and monthly rates; also for use of ballroom for dinner parties or dances.

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Official Circulars.

Agency for Steamship "Balboa."

PANAMA RAILROAD COMPANY,
PANAMA RAILROAD STEAMSHIP LINE,
BALBOA HEIGHTS, C. Z., February 28, 1923.

To all concerned—Effective February 22, 1923, the Panama Railroad Company was appointed agent on the Isthmus for the steamship *Balboa*, owned by the Compania Costanera Colombiana de Trasportes, of Barranquilla, Colombia.

S. W. HEALD,
Superintendent.

Naval Radio Rates.

OFFICE OF THE DISTRICT COMMUNICATION SUPERINTENDENT, FIFTEENTH NAVAL DISTRICT, U. S. NAVAL RADIO STATION,
BALBOA, C. Z., March 2, 1923.

CIRCULAR LETTER No. 4:

The following notice was received from the Navy Department and is quoted for the information of the general public:

"1. Effective April 1, 1923, the coastal station rate for commercial traffic through all Naval Radio Stations of the Naval Communication Service, except those on the Great Lakes, will be 12 cents per word."

2. This is an increase of 6 cents per word on all ship to shore and shore to ship messages.

3. Unless further advice is received, special rates for point to point traffic to Central America, Colombia, and Panaman stations will remain as before.

D. F. PATTERSON,
Lieut.-Com., U. S. Navy.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $3.50 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.—Continued from page 386.

PORT OF BALBOA—PACIFIC FLEET—continued.

ARRIVALS.

Vessel.	Line.	From—
U. S. Destroyers Nos.—*Continued:*		
307	U. S. Navy	San Diego.
308	U. S. Navy	San Diego.
309	U. S. Navy	San Diego.
310	U. S. Navy	San Diego.
311	U. S. Navy	San Diego.
312	U. S. Navy	San Diego.
313	U. S. Navy	San Diego.
314	U. S. Navy	San Diego.
315	U. S. Navy	San Diego.
316	U. S. Navy	San Diego.
317	U. S. Navy	San Diego.
318	U. S. Navy	San Diego.
319	U. S. Navy	San Diego.

ARRIVALS.

Vessel.	Line.	From—
U. S. Destroyers Nos.—*Continued:*		
320	U. S. Navy	San Diego.
321	U. S. Navy	San Diego.
322	U. S. Navy	San Diego.
323	U. S. Navy	San Diego.
324	U. S. Navy	San Diego.
325	U. S. Navy	San Diego.
330	U. S. Navy	San Diego.
331	U. S. Navy	San Diego.
332	U. S. Navy	San Diego.
333	U. S. Navy	San Diego.
334	U. S. Navy	San Diego.
335	U. S. Navy	San Diego.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., March 14, 1923. No. 31.

Origin and Destination of Cargo Tonnage Transiting Canal.

In the tabulation below, the origin and destination of cargo tonnage passing through the Panama Canal is shown for the month of February for the past 3 years. Reference to this table will show several decided changes in cargo movements during the period covered:

ORIGIN OF CARGO TRANSITING CANAL FROM ATLANTIC TO PACIFIC.

	February, 1921.	February, 1922.	February, 1923.
East coast of United States	317,621	302,729	406,304
Europe (including British Isles)	37,420	69,077	121,561
East coast of Mexico	95,653	41,737	21,466
Remaining	24,178	29,282	14,108
Total, Atlantic to Pacific cargo	474,872	442,825	563,439

DESTINATION OF CARGO TRANSITING CANAL FROM ATLANTIC TO PACIFIC.

	February, 1921.	February, 1922.	February, 1923.
West coast of United States	106,320	130,128	303,742
Far East	85,210	154,156	86,447
Australasia	71,188	63,709	80,772
West coast of South America	177,268	77,958	31,136
Remaining	34,886	16,874	61,342
Total, Atlantic to Pacific cargo	474,872	442,825	563,439

ORIGIN OF CARGO TRANSITING CANAL FROM PACIFIC TO ATLANTIC.

	February, 1921.	February, 1922.	February, 1923.
West coast of United States	179,825	169,692	525,443
West coast of South America	241,753	110,701	308,403
West coast of Canada	3,509	40,400	61,322
Australasia	26,893	39,881	39,141
Far East	24,098	19,330	39,881
Remaining	1,954	15,335	25,649
Total, Pacific to Atlantic cargo	478,032	395,249	999,839

DESTINATION OF CARGO TRANSITING CANAL FROM PACIFIC TO ATLANTIC.

	February, 1921.	February, 1922.	February, 1923.
East coast of United States	157,589	172,536	669,855
Europe (including British Isles)	236,815	210,464	268,637
Remaining	83,628	12,249	61,347
Total, Pacific to Atlantic cargo	478,032	395,249	999,839

It will be seen that the total cargo tonnage passing through the Canal from the east coast of Mexico during February, 1923, was less than one-fourth of the total of 2 years ago, the decrease being caused by the curtailed production of the Mexican oil fields.

(Continued on page 399.)

Origin and Destination of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, February, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.					Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[2]	Total, South America.	West coast of United States.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.	Total, North America.	Japan.	China.	Philippines.	Far East.[2]	Total, Asia.	New Zealand.	Australia.	Australasia.[2]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																							
United States—																							
North Atlantic ports	1,094	598	1,609	33	9,301	12,635	213,344	....	2,500	....	215,844	23,893	3,351	1,852	18,243	47,342	1,000	13,078	18,501	32,579	469	308,869	54.8
South Atlantic ports	....	....	....	3,792	....	3,792	3,400	....	....	....	3,400	2,320	1,472	....	666	4,458	....	600	560	1,160	....	12,900	2.3
Gulf ports	....	....	....	395	2,222	2,617	40,556	500	....	....	41,056	11,418	14,544	....	5,965	31,927	....	....	8,885	8,885	50	84,535	15.0
Totals, United States	1,094	598	1,609	4,220	11,523	19,044	257,300	500	2,500	....	260,300	37,634	19,367	1,852	24,874	83,727	1,000	13,678	27,946	42,624	519	406,304	72.1
East coast of Mexico	19,196	....	....	....	....	19,196	270	....	....	....	270	....	....	....	2,000	2,000	....	....	....	....	....	21,466	3.8
Cristobal, C. Z.[1]	332	451	405	851	725	2,767	....	....	251	4,360	4,611	....	....	....	....	....	....	....	....	....	....	7,378	1.3
East coast of Canada	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5,500	5,500	....	5,500	1.0
Totals, North America	20,622	1,049	2,014	5,074	12,248	41,007	257,670	500	2,751	4,360	265,271	37,634	19,367	1,852	26,874	85,727	1,000	13,678	33,446	48,124	519	440,648	78.2
Europe:																							
Belgium	....	....	800	....	718	1,518	7,500	65	820	....	8,385	....	....	....	....	....	6,000	....	....	6,000	....	15,903	2.8
British Isles	6,484	....	....	558	4,310	11,352	21,997	100	5,539	....	27,636	....	....	....	....	....	26,648	....	....	26,648	....	65,636	11.7
France	123	....	....	13	....	136	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	136	....
Germany	....	....	....	....	6,573	6,573	30	....	175	209	414	....	....	....	....	....	....	....	....	....	....	6,987	1.2
Holland	285	....	....	....	397	682	7,100	....	390	....	7,490	....	....	....	....	....	....	....	....	....	....	8,172	1.4
Italy	50	....	....	....	32	82	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	82	....
Norway and Sweden	....	....	....	....	....	....	3,700	....	....	....	3,700	....	....	....	....	....	....	....	....	....	1,400	5,100	1.0
Europe[2]	2,887	....	100	373	6,838	10,227	5,755	180	3,383	....	9,318	....	....	....	....	....	....	....	....	....	....	19,545	3.5
Totals, Europe	9,829	....	900	944	18,883	30,570	46,082	351	10,298	209	56,943	....	....	....	....	....	32,648	....	....	32,648	1,400	121,561	21.6
East coast of South America	....	510	....	....	....	510	....	....	....	....	....	720	....	....	....	720	....	....	....	....	....	1,230	0.2
Grand totals	30,451	1,559	2,923	6,018	31,136	72,087	303,712	851	13,049	4,569	322,214	38,354	19,367	1,852	26,874	85,447	33,648	13,678	33,446	80,772	1,919	563,439	100.0
Per cent of total cargo:																							
February, 1923	5.4	0.3	0.5	1.1	5.5	12.8	53.9	0.2	2.3	0.8	57.2	6.8	3.4	0.3	4.8	15.3	6.0	2.4	6.0	14.4	0.3	100.0	....
February, 1922	11.2	0.3	2.7	2.6	0.6	17.6	29.4	1.6	....	0.6	33.2	28.2	14.5	1.2	0.8	34.8	10.8	3.6	....	14.4	....	....	....
February, 1921	27.7	0.1	0.2	1.3	8.0	37.3	22.4	2.1	....	1.4	27.9	3.2	7.5	0.1	7.2	18.0	6.1	7.2	1.7	15.0	1.8	....	....

[1] Includes both local and transit cargo.

[2] Indicates general cargo not routed so as to allow segregation among definite ports.

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, February, 1923.

Figures represent tons of 2,240 pounds.

From—	North America. United States. North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.	East coast of Canada.	West Indies.	East coast of Mexico.	Cristobal, C. Z.[1]	Total, North America.	Europe. Belgium.	British Isles.	France.	Germany.	Holland.	Italy.	Norway and Sweden.	Spain and Portugal.[2]	Europe.[2]	Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																						
Chile	47,460	89,859	15,905	153,224		1,600		336	155,160	4,107	8,199	2,315	730	2,110	747		10,789	53,215	82,212		237,372	23.7
Colombia	845			845				1,325	2,170												2,170	0.2
Ecuador	2,487			2,487				640	3,127		40	14	122		540		10		726	48	3,901	0.4
Peru	21,896			21,896	14,770	15,500		190	52,356		7,587	551						3,544	11,685		64,041	6.4
West coast of South America	41			41					41		440	27	260					151	878		919	0.1
Totals, South America	72,729	89,859	15,905	178,493	14,770	17,100		2,491	212,854	4,107	16,266	2,910	1,112	2,110	1,287		10,799	56,910	95,501	48	308,403	30.8
North America:																						
West coast of United States	417,572	8,306	8,299	434,177		8,741	2,346	71	445,335	47	67,146	1,380	962	463				7,043	77,041	3,067	525,443	52.6
West coast of Canada	25,669			25,669					25,669		26,243	25		2,000				7,385	35,653		61,322	6.1
West coast of Mexico																	4,289		4,289		4,289	0.4
West coast of Central America	992		2,000	2,992		87		5,352	8,431				1,257					873	2,130		10,561	1.1
West coast of North America[3]	6,550			6,550					6,550		12,470							8,371	20,841		27,391	2.7
Totals, North America	450,783	8,306	10,299	469,388		8,828	2,346	5,423	485,985	47	105,859	1,405	2,219	2,463			4,289	23,672	139,954	3,067	629,006	62.9
Asia:																						
China	523			523					523												523	0.1
Japan	237			237					237												237	
Philippines	8,978			8,978					8,978												8,978	0.9
Far East[1]	6,551			6,551		7,000			13,551												13,551	1.4
Totals, Asia	16,289			16,289		7,000			23,289												23,289	2.4
Australasia:																						
Australia	4,616			4,616	270				4,886		5,996								5,996		10,882	1.1
New Zealand	1,069			1,069	4				1,073		11,219								11,219		12,292	1.2
Australasia[1]																7,500		8,467	15,967		15,967	1.6
Totals, Australasia	5,685			5,685	274				5,959		17,215					7,500		8,467	33,182		39,141	3.9
Grand totals	545,486	98,165	26,204	669,855	15,044	32,928	2,346	7,914	728,087	4,154	139,340	4,315	3,331	4,573	1,287	7,500	15,088	89,049	268,637	3,115	999,839	100.0
Per cent of total cargo:																						
February, 1923	54.6	9.8	2.6	67.0	1.5	3.3	0.2	0.8	72.8	0.4	13.9	0.4	0.3	0.5	0.1	0.8	1.5	8.9	26.9	0.3	100.0	
February, 1922	42.7	0.2	0.7	43.6		0.5		2.4	46.6	0.4	39.7	2.7	3.8	1.0	1.3	0.4	0.1	3.9	53.3	1.0	100.0	
February, 1921	24.7	6.1	2.1	32.9	0.6	1.0	0.4	0.9	35.8	2.1	27.1	1.2	5.2	1.4		0.6	2.0	10.0	49.6			

[1] General cargo routed so as not to allow segregation among different ports.

[2] Includes both local and transit cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 10, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
J. N. Pew	3	21.18	4	6.30	4	14.00	4	19.52	American	Sun Oil Co.	480.5	66.0	19.0	Chester	Los Angeles	Ballast		9,494	6,612
Gene Crawley	4	7.20	4	7.44	4	16.05	4	17.40	American	Sinclair Navigation Co.	304.7	43.7	25.3	Tampico	Corinto	Ballast		3,332	2,512
Opawa	4	4.12	4	9.45	4	17.51	4	19.05	British	New Zealand Shipping Co.	460.7	60.2	28.4	Liverpool	Auckland	General	6,975	9,967	6,936
Rosandra	5	6.35	5	8.10	5	17.44	5	19.19	Italian	Navigazione Libero Triestina	450.0	57.0	16.6	New York	Antofagasta	Ballast		8,028	5,359
Montgomery City	5	4.21	5	11.45	5	19.41	5	20.49	American	United States Steel Products Co.	424.2	56.2	27.0	New York	Vancouver	General	8,571	7,611	5,450
Bethore	5	14.20	6	6.20	6	18.40	6	19.45	American	Ore Steamship Co.	550.3	72.2	25.0	New York	Cruz Grande	Ballast		15,476	11,102
Ruahine	5	15.44	6	7.11	6	19.20	7	6.39	British	New Zealand Shipping Co.	480.6	60.3	29.0	London	Auckland	General	7,370	11,027	8,188
Walter Jennings	5	21.15	6	7.42	6	20.19	6	21.14	American	Standard Oil Co.	499.2	68.1	20.6	New York	Los Angeles	Ballast		11,020	7,913
Cardiganshire	5	9.59	6	8.48	6	21.25	7	6.24	British	Royal Mail Steam Packet Co.	516.0	64.0	20.7	London	Vancouver	General	3,040	11,420	8,385
Acardo	6	8.18	6	9.30	6	22.09	7	3.44	British	Anglo-Saxon Petroleum Co.	412.0	53.0	19.0	Barrow	San Francisco	Ballast		6,189	4,235
Virginian	6	8.36	6	10.20	6	23.05	7	8.15	American	American-Hawaiian Line	491.5	58.2	25.0	New York	Seattle	General	8,000	10,491	7,546
Acajutla	2-28	17.48	6	11.09	6	23.49	7	11.09	British	Pacific Steam Navigation Co.	215.0	33.5	15.7	Cristobal	Champerico	General	842	1,273	706
Negada	6	6.15	6	11.40	7	0.40	7	1.51	German	Kosmos Line	410.0	50.7	21.0	Hamburg	Guayaquil	General	2,761	6,402	4,463
Theben	6	2.35	6	12.50	7	1.25	7	2.45	German	Kosmos Line	339.0	47.9	21.0	Hamburg	Salina Cruz	General	300	4,094	2,924
Romsdalshorn	6	13.32	7	6.27	7	13.35	7	14.50	Norwegian	O. Gralle Olsen & I. H. Olsen	420.0	53.9	15.6	Newport News	Tocopilla	Ballast		6,592	4,733
Swifteagle	6	18.00	7	7.35	7	15.24	7	19.58	American	Swiftsure Oil Transport Co.	465.0	60.0	18.6	Providence	Los Angeles	Ballast		8,473	5,997
Eibergen	7	9.05	7	9.15	7	17.36	7	19.05	Dutch	Furness Ship & Agency Co.	385.0	51.9	16.0	Newport News	Vancouver	Ballast		5,354	3,839
Agapenor	7	10.52	7	11.05	7	19.39	7	20.51	British	Alfred Holt & Co.	455.2	56.0	26.0	New York	Yokohama	General	5,376	7,793	5,407
Calgarolite	7	10.05	7	12.15	7	20.26	7	21.32	British	Imperial Oil Co.	463.3	60.2	19.0	New York	Los Angeles	Ballast		8,491	6,096
Saint Jean	7	4.45	7	13.18	7	21.16	7	22.25	French	French Line	415.0	50.3	18.0	Bordeaux	Valparaiso	General	818	5,849	4,081
Bethelridge	7	14.25	8	6.20	8	14.55	8	16.15	American	Walker & Daley (S. B.)	431.0	59.2	20.6	New York	Los Angeles	Ballast		7,819	5,007
Kennecott [1]	7	12.50	8	7.44	8	17.14	8	18.20	American	Alaska Steamship Co.	345.3	49.6	20.4	New York	Los Angeles	Steel, general	4,107	4,593	3,381
Knowsley Hall	7	13.50	8	7.50	8	18.12	8	19.12	British	Hall Line, Ltd.	372.8	46.0	24.6	Galveston	Yokohama	General	5,830	4,580	3,375
Edgar F. Luckenbach	7	19.35	8	8.00	8	20.27	8	21.36	American	Luckenbach Line	425.0	57.3	28.6	New Orleans	Seattle	General	8,768	8,568	6,705
Jason	7	9.20	8	9.10	8	21.27	9	11.03	Dutch	Royal Netherlands W. I. Mail	346.7	48.5	16.0	Hamburg	Guayaquil	General	2,993	4,321	3,120
J. L. Luckenbach	7	21.24	8	9.35	8	22.17	8	23.31	American	Luckenbach Line	448.9	60.2	28.0	Boston	San Francisco	General	7,000	9,294	6,861
Glasgow Maru	8	6.45	8	10.15	8	23.16	9	8.09	Japanese	Kokusai Kisen Kaisha	385.0	51.0	26.0	Galveston	Yokohama	General	6,307	5,919	4,389
Gold Shell	8	7.40	8	11.05	9	0.05	9	1.19	American	Shell Oil Co.	412.0	53.0	20.0	Curacao	San Francisco	Ballast		6,201	4,336
Payne [2]			8		8	11.02			American	George Duer				Cristobal	Gatun	Ballast		3	3
Canibas	8	14.40	9	6.22	9	18.43	9	20.15	American	Matson Navigation Co.	420.0	54.2	28.5	Baltimore	San Francisco	Steel, general	8,557	7,309	5,388
Nordvaag	8	18.25	9	7.20	9	20.22	10	3.04	Norwegian	Gerrissen & Co.	340.0	40.1	18.10	New Orleans	Talcahuano	General	2,053	2,781	1,813
Manavi	1	17.50	9	7.21	9	20.56	10	1.14	British	Pacific Steam Navigation Co.	216.0	35.1	14.3	Cristobal	Guayaquil	General	678	1,357	884
John D. Archbold	9	0.32	9	8.24	9	22.00	9	23.30	American	Standard Oil Co.	554.9	75.3	23.6	New York	Los Angeles	Ballast		14,785	10,313
Nordkap	9	6.50	9	9.25	9	23.48	10	1.07	Danish	Peter Brown	340.0	42.7	22.0	Mobile	San Antonio	Coke	3,515	3,755	2,712

[1] Motor ship. [2] Launch.

Swiftscout	9	9.55	9	10.45	9	23.00	10	12.28	American	Swiftsure Oil Transport Co.	464.0	60.0	20.0	Fall River	Los Angeles	Ballast		8,473	6,104
J. A. Moffett, Jr.	9	19.02	10	6.30	10	15.39	10	17.00	American	Standard Oil Co.	499.2	68.1	21.0	New York	Los Angeles	Ballast		11,020	7,913
Sandpiper [3]	1	14.55	10	6.15	10	16.03	10	(4)	American	U. S. Navy	187.0	35.0		Cristobal	Balboa	None			
Eastern Prince	9	17.50	10	7.22	10	18.31	10	22.27	British	Prince Line, Ltd.	469.4	58.5	26.2	Philadelphia	Hongkong	General	7,425	8,413	5,971
Gargoyle	9	21.40	10	7.50	10	21.25	11	1.20	American	Vacuum Oil Co.	425.0	57.2	20.0	Philadelphia	San Francisco	Ballast		7,510	4,989
Ethan Allen	9	23.10	10	8.23	10	21.44	10	23.04	American	Tampa Interocean Co. (S. B.)	439.6	60.0	26.0	New Orleans	Shanghai	General	8,949	8,987	6,534
Sabine Sun	10	0.10	10	9.27	10	22.30	11	6.54	American	Sun Oil Co.	429.2	59.2	18.0	Chester	Los Angeles	Ballast		7,621	5,182
W. S. Rheem	10	0.35	10	10.27	11	0.28	11	1.27	American	Standard Oil Co.	500.0	68.2	21.0	New York	Los Angeles	Ballast		11,224	7,860
Benjamin Brewster	10	5.22	10	11.24	11	2.12			American	Standard Oil Co.	412.0	53.2	18.0	Habana	Talara	Ballast		6,177	4,244
Herakles	10	6.30	10	11.55	10	23.36	11	.44	Norwegian	Bruusgaard Kiosterud	389.0	54.0	16.6	Philadelphia	Callao	Dynamite	50	5,680	4,220
Narbo	10	7.17	10	12.00	11	1.22	11	2.27	American	Tampa Interocean Co. (S. B.)	402.0	53.0	25.0	New Orleans	Hongkong	General	6,800	6,579	4,847
Modica	10	6.40	10	12.50	11	3.12	11	4.25	Norwegian	I. A. Christensen	371.0	52.0	13.0	Norfolk	Caile	Ballast		5,007	3,539
Corinto	8	14.41	10	12.45	11	2.57	11	5.54	American	Pacific Mail Steamship Co.	261.0	40.0	14.1	Cristobal	San Francisco	Ballast		2,403	1,560

[3] Mine sweeper. [4] Laying to at anchorage 16.45.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Sumatra	3	14.45	4	6.57	4	14.12	4	14.12	Dutch	Netherlands Royal Mail Co.	393.6	51.3	27.6	Mejillones	United King.	Nitrate	7,514	5,945	4,256
Devolente	4	15.00	4	9.10	4	16.30	4	22.15	American	Walker & Daley	435.0	56.0	26.0	San Pedro	New York	Oil	8,500	1,452	5,151
Albistan	4	12.45	4	13.25	4	21.35	5	0.13	Danish	Thorber Nielsen	350.0	45.0	23.0	Antofagasta	New Orleans	Nitrate, copper	5,053	3,947	3,911
Swiftwind	3	23.00	4	14.22	4	22.50	4	22.50	American	C. D. Mallory & Co.	464.0	60.0	26.0	San Pedro	Fall River	Oil	12,296	8,473	5,997
Agwihavre	4	9.30	5	6.54	5	15.12	5	15.12	American	Ward Line	483.5	66.0	27.6	San Pedro	New York	Oil	13,285	9,394	6,436
Anniston City	5	6.30	5	7.59	5	15.20	5	15.20	American	Isthmian Lines	441.11	53.0	26.0	Portland	Boston	Lumber, general	7,800	7,611	5,450
Transvaal	4	21.00	5	9.00	5	17.30	5	21.40	Danish	Orient Steamship Co.	360.2	51.2	25.6	Talcahuano	Copenhagen	Nitrate, general	6,917	4,853	3,476
Santa Ana	5	13.00	5	14.48	5	20.58	6	0.42	American	Grace Line	360.2	51.6	23.0	Talcahuano	New York	General	3,625	5,776	4,081
Alvarado	5	10.30	5	14.50	5	22.45	5	22.45	American	Swayne & Hoyt	245.0	41.5	15.0	Bellingham	New Orleans	Lumber	1,672	2,344	1,748
Mantaro	5	11.50	6	7.02	6	15.00			Peruvian	Peruvian Line	367.3	43.0	20.0	Callao	Cristobal	General	1,254	4,838	2,959
Santa Isabel	5	15.30	6	8.26	6	16.10	6	16.10	American	American & Cuban Steamship Co	251.8	43.6	23.0	Everett	Boston	General	3,100	2,823	1,740
Norlina	5	18.00	6	8.45	6	16.44	6	16.44	American	Luckenbach Line	385.0	51.5	22.6	San Pedro	Newport News	General	6,000	5,466	4,181
S. C. T. Dodd	6	0.05	6	9.40	6	17.50	6	17.50	American	Standard Oil Co.	425.0	57.2	28.0	San Francisco	Port Arthur	Oil	10,000	7,481	4,975
Sheafmead	5	23.00	6	10.37	6	19.30	6	20.40	British	Kingsley Steamship Co.	380.0	53.6	22.6	Iquique	Wilmington	Nitrate	6,950	5,326	4,008
William Rockefeller	6	5.00	6	11.40	6	20.53	6	21.39	American	Standard Oil Co.	554.9	75.3	32.0	San Pedro	New York	Oil	20,000	14,785	10,313
City of Para	6	5.10	6	12.48	6	21.39			Panaman	Pacific Mail Steamship Co.	345.0	38.6	20.0	San Francisco	Cristobal	General	1,350	3,739	2,459
Dillwyn	6	8.30	6	13.46	6	22.45	6	22.45	American	Walker & Daley	435.0	56.0	23.0	San Pedro	New York	Oil	7,000	7,441	5,180
Cara [3]			6	7.46	6	15.39			American	M. Hedges	45.0	9.6		Miraflores	Gatun			9	9
Fylgia	6	9.00	7	8.03	7	15.56	8	18.30	Swedish	Swedish Government	377.0	48.0	20.0	Valparaiso	Santiago	Ammunition	395		4,180
Peru [1]	7	0.05	7	8.58	7	17.12	7	21.49	Danish	East Asiatic Co.	425.0	57.2	27.0	San Francisco	Limon	General	7,728	7,407	5,660
San Melita	7	1.00	7	10.36	7	18.42	7	18.45	British	Eagle Oil Transportation Co.	530.0	66.6	28.3	San Pedro	Tampico	Oil	15,237	12,381	8,800
Amersfoot	7	12.00	7	13.42	7	22.30	8	19.22	Dutch	Royal Dutch Steamship Co.	483.0	63.0	27.0	Taltal	Rotterdam	Nitrate	10,000	*9,614	6,525
Bawean	7	13.10	7	14.13	7	22.55	8	3.55	Dutch	Netherlands Steamship Co.	436.0	54.6	27.6	Tocopilla	Eng. Channel	Nitrate	8,259	6,593	4,661
Corinto	7	15.30	8	7.02	8	14.41	10	12.45	American	Pacific Mail Steamship Co.	261.0	40.0	14.6	San Francisco	Cristobal	General, coffee	1,315	2,403	1,506
Robert E. Hopkins	7	17.30	8	7.54	8	15.19	8	15.19	American	Tidewater Oil Co.	424.4	58.2	23.0	San Pedro	New York	Oil	10,440	7,333	5,244
Orleans	7	17.40	8	8.57	8	16.28	8	16.28	American	American-Hawaiian Line	395.5	55.0	27.0	Bellingham	New York	General	7,500	7,330	5,233
Ebro	8	2.00	8	9.56	7	17.35	9	0.25	British	Pacific Steam Navigation Co.	450.0	58.0	25.0	Valparaiso	New York	Nitrate	4,382	9,151	6,227
Ortega	8	4.00	8	11.59	8	20.15	9	1.34	British	Pacific Steam Navigation Co.	435.0	53.0	23.1	Valparaiso	Liverpool	General	5,072	8,345	4,998
Mystic	8	8.00	8	10.48	8	18.45	8	18.45	American	United American Lines	400.7	51.2	23.3	Seattle	New Orleans	General	5,010	6,623	4,625
Nebraskan	8	11.40	8	12.32	8	22.13	8	22.13	American	United American Lines	368.6	55.2	23.11	Seattle	Philadelphia	Lumber	4,310	5,707	3,643
Munaires	8	13.00	8	14.35	8	23.30	9	12.05	American	Munson Line	385.0	53.0	23.8	Grays Harbor	New York	Lumber	5,000	5,577	4,225
Steelore	8	6.00	8	16.04	9	15.00	9	15.00	American	Ore Steamship Co.	550.3	72.2	32.0	Cruz Grande	Baltimore	Iron ore	19,000	15,551	4,297
Chas. H. Cramp	8	14.35	9	7.08	9	13.50	9	16.20	American	Argonaut Steamship Co.	404.6	53.9	15.0	Seattle	Hampton Rds.	Ballast		6,755	4,750

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Complete transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Sagaland	8	21.00	9	7.50	9	16.5	9	17.55	Swedish	Alex. Brostrom & Son	430.2	54.2	25.6	Iquique	Falmouth	Nitrate	9,051	6,140	5,014
Sonnica[5]	6	15.00	9	8.03	9	16.2	11	9.25	American	H. S. Shonnard	87.2	23.0	10.6	Punta Arenas	New York	Ballast		115	102
Madoera	9	0.30	9	9.32	9	18.23	12	15.30	Dutch	Netherlands Steamship Co	481.0	60.0	31.0	Antofagasta	United King'm	Nitrate	12,000	9,550	6,620
Toco	9	3.30	9	10.07	9	18.30	9	20.45	British	Chilean Steamship Co	440.0	56.0	19.0	Tocopilla	Tampico	Ballast		7,693	4,885
D. G. Schofield	9	2.28	9	9.54	9	18.05	9	18.05	American	Standard Oil Co	439.5	58.0	30.6	San Francisco	Philadelphia	Oil	11,200	8,912	6,254
Eastwind	9	15.40	9	10.39	9	20.25	9	22.30	American	United States & Australian Lines	384.3	51.2	17.0	Newcastle[6]	New York	General	800	5,966	4,442
Apurimac	9	3.30	9	11.03	9	20.55	10	5.00	Peruvian	Peruvian Line	382.0	48.2	26.1	(?)	Liverpool	General	5,620	4,867	3,544
Mary Luckenbach	8	23.15	9	12.43	9	22.07	9	22.07	American	Luckenbach Line	410.5	54.3	24.3	San Pedro	New York	Oil	9,658	6,500	4,511
Delaware Sun	9	10.30	9	15.11	9	23.13	9	23.13	American	Sun Oil Co	480.5	66.0	28.0	Los Angeles	Philadelphia	Oil	13,600	9,402	6,586
Swiftstar	9	17.15	10	8.03	10	17.00	10	17.00	American	C. B. Mallory & Co	464.0	60.0	29.0	San Pedro	Fall River	Oil	12,000	8,473	6,050
San Francisco Maru	9	12.15	10	6.58	10	15.43	11	17.40	Japanese	Kokusai Kisen Kaisha	385.0	51.0	26.0	Vancouver	Cristobal[8]	Wheat	7,500	6,089	4,568
H. H. Rogers	10	12.05	10	9.05	10	17.41	10	17.41	American	Standard Oil Co	500.0	68.0	30.0	San Pedro	New York	Oil	15,000	10,308	7,668
Vesta	10	6.30	10	9.43	10	18.28	12	23.00	Dutch	Royal Netherlands W. I. Mail	280.6	38.0	15.4	Guayaquil	Amsterdam	General	135	2,133	1,378
Anglo-Saxon	10	3.00	10	10.04	10	18.35	10	23.20	British	Lawther, Latter & Co	380.3	50.2	25.9	San Francisco	United King[8]	Barley	6,600	5,436	3,939
Maimoa	10	6.20	10	11.09	10	19.50	10	21.45	British	Shaw, Saville & Albion	494.0	63.0	26.0	Wellington	London	General	7,580	11,053	7,895
Wm. G. Warden	10	10.15	10	12.36	10	21.15	10	21.15	American	Standard Oil Co	500.0	68.2	29.5	San Pedro	New York	Oil	16,000	10,582	7,516
Brielle	10	11.00	10	13.54	10	23.10	11	14.49	Dutch	Royal Netherlands W. I. Mail	400.0	58.0	26.0	Valparaiso	Havre	General	8,780	7,322	5,254
Atlanterhavet	10	1.39	10	14.52	10	23.42	11	0.42	Danish	Wessel, Duval & Co	357.1	50.7	25.4	Caleta Buena	Savannah	Nitrate	7,200	5,814	4,489
Maple Branch	10	14.00	10	14.58	11	0.05	11	9.20	British	F. and W. Ritson	420.0	52.0	24.6	Valparaiso	Eng. Channel	General	7,072	5,614	4,116

[5] Yacht. [6] Australia. [7] Tambo de Mora. [8] For orders.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
March 4	Panama	Panama Railroad Steamship Line	New York via Haiti.
March 7	Ulysses	Panama Railroad Steamship Line	Norfolk.
March 7	Parismina	United Fruit Co	New Orleans via Habana.
March 7	Metapan	United Fruit Co	New York via Kingston.
March 7	Tivives	United Fruit Co	Colombian ports.
March 8	Orca	Pacific Steam Navigation Co	New York via wayports.
March 9	Calamares	United Fruit Co	New York via wayports.
March 10	San Blas	United Fruit Co	Boston via Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
March 6	Santa Marta	United Fruit Co	New Orleans via wayports.
March 8	Tivives	United Fruit Co	New York via Kingston.
March 8	Metapan	United Fruit Co	Colombian ports.
March 9	Parismina	United Fruit Co	New Orleans via wayports.
March 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
March 9	Orca	Pacific Steam Navigation Co	New York via wayports.
March 10	San Blas	United Fruit Co	Boston.
March 10	Calamares	United Fruit Co	New York via wayports.

PORT OF BALBOA.

March 3	W. S. Miller	Standard Oil Co	San Francisco.
March 3	Romulus	A. O. Lindvig	Portland.
March 8	Birmingham	U. S. Navy	Corinto.
March 9	Tustem	Struthers & Barry	Port San Luis.

March 3	W. S. Miller	Standard Oil Co	San Francisco.
March 4	Romulus	A. O. Lindvig	Valparaiso.

*Other than ships passing through the Canal.

(Continued from page 393)

In the Atlantic-to-Pacific cargo the amount destined for the west coast of South America shows the greatest falling off. Two years ago heavy shipments of coal and fuel oil were routed through the Canal to the west coast of South America, while at present practically no coal for this region is being shipped through the Canal, and fuel oil shipments have been greatly reduced.

The greatly increased cargo tonnage both to the east coast of the United States and from the west coast is due in part to the large shipments of California oil which began several months ago, and which are largely intercoastal; and in part to the great increase in the intercoastal traffic for all commodities.

The large increase in cargo originating on the west coast of South America is primarily due to the resumption of nitrate shipments from the slump of a year ago, together with shipments of Peruvian crude petroleum, and of iron and copper ores from Chile. Nitrate shipments passing through the Canal in February, 1923, totaled 183,344 tons as compared with 16,607 tons in February a year ago.

Cargo tonnage originating on the west coast of Canada shows a large increase over 2 years ago. The principal commodities from this region for February, 1923, were 34,386 tons of wheat and 22,463 tons of lumber.

On pages 394 and 395 of this issue, are tables showing in detail the origin and destination of all cargo passing through the Canal during February, 1923.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops during the week ended March 10:

Steamships *City of Para*, install springs on L. P. piston active rings; make baffle plate for condenser; repair copper steam pipe to deck winches and fidley; *Mantaro*, drill holes, tap and install 3 new fusible plugs in boiler and plug old holes; repair telegraph to bridge and scupper; remove ceiling for removal of rats and replace same; remove dent from ship's side and repair frame in back of dent, etc.; *Albaro*, electric weld boiler and install wedge in anchor; *Madoera*, roll tubes in boiler; repair copper pipe for winch and 2 tube expanders; renew regulating boss valve; *Ulysses*, manufacture 2 spools for main feed pump regulating valves; straighten valve stem and connecting rod and manufacture new gland for circulating engine; repair sounding pipes in No. 1 and No. 7 topside tanks and renew sounding pipe for No. 8 tank; remove manhole plates on topside tanks; repair pipe stanchion and install 2 dogs on hatches; scale, wire brush and paint No. 1 hold, etc.; dredge *No. 86*, dock, clean, and paint; repair H. P. cylinder of main engine, cutter engine and boiler; install liner for discharge pipe; renew bad rivets in hull and thrust pad; electric weld pitted and scored plates; renew chafing fenders on each side of ladder; tug *Porto Bello*, repair fresh water pump and valve chest for main air pump; steamships *Jason*, *Orca*, *El Montecillo* and yacht *Cara*, minor repairs.

Report of Cargo Discharged and Laded from Vessels Entering and Clearing from Port of Balboa for Week Ending March 10, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Rosana	Alberto Fait	February 26	March 4	.....	30
W. S. Miller	Arrow Oil Co	March 3	March 5	10,000	.....
Acajutla	Pacific Steam Navigation Co	March 6	March 6	.....	10
City of Para	Pacific Mail Steamship Co	March 6	March 6	5	.....
Corinto	Pacific Mail Steamship Co	March 7	March 8	23	.....
Manavi	Pacific Steam Navigation Co	March 9	March 9	.....	7
Nordvaag	New Orleans and S. American Line	March 9	March 9	45	84
Tustem	Struthers & Barry	March 9	.....	8,571	.....

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 10, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Santa Marta	United Fruit Co.	March 4	March 6	(1)	557
Acajutla	Pacific Steam Navigation Co.		March 6		649
Panama	Panama Railroad Steamship Line	March 4	March 9	2,289	3,535
Cardiganshire	Pacific Steam Navigation Co.	March 5	March 6	180	54
Santa Ana	Grace Line	March 5	March 6	3	135
Theben	Kosmos Line	March 6	March 6	17	(2)
Mantaro	Peruvian Line	March 6		1,272	
City of Para	Pacific Mail Steamship Co.	March 6		1,492	
Saint Jean	French Line	March 7	March 7	66	(2)
Jason	Royal Netherlands W. I. Mail	March 7	March 7	141	15½
Peru	Danish East Asiatic Co.	March 7	March 7	(1)	137
Parismina	United Fruit Co.	March 7	March 8	877	8
Tivives	United Fruit Co.	March 7	March 8	2	¼
Metapan	United Fruit Co.	March 7	March 8	1,216	63
Amersfoort	Royal Netherlands W. I. Mail	March 7	March 8	(1)	223½
Corinto	Pacific Mail Steamship Co.	March 8	March 10	1,319	(2)
Nordvaag	New Orleans & S. A. S. S. Line	March 8	March 9	76	(2)
Ebro	Pacific Steam Navigation Co.	March 8	March 9	38	(2)
Ortega	Pacific Steam Navigation Co.	March 8	March 9	(1)	33
Manavi	Pacific Steam Navigation Co.		March 9		684
Calamares	United Fruit Co.	March 9	March 10	319	275
Santa Marta	Pacific Mail Steamship Co.	March 10		151	
Albaro	Italian Line	March 10		145	
San Blas	United Fruit Co.	March 10	March 10	10	102
Vesta	Royal Netherlands W. I. Mail	March 10		887½	

[1] No cargo discharged. [2] No cargo laded.

Fast Travel of Floating Bottle.

A Hydrographic Office bottle, containing a paper indicating that it was dropped off the steamship *F. H. Hillman* in latitude 12° 7′ N., longitude 76° 53′ W., which is in the Caribbean Sea about 300 miles northeasterly of Cristobal, was recovered at Galeta Island, 7 miles northeast of Cristobal, on March 7. It had traveled at least 290 miles in 12 days, approximately 1 mile an hour or an average of 90 feet a minute. This speed is considered especially remarkable in view of the fact that the general set of the currents in this area opposed the passage of the bottle and this travel must have been due to the force of wind blowing counter to the current. During this period the wind recorded at Cristobal was continually from the north and northeast, and the velocity was considerably above normal. The average for February, 1923, was 18.3 miles per hour, and for the period from February 23 to March 7 the average was 17.8 miles. The average for February for the 13 years of record has been 15.5, and for March 15.4 miles per hour.

No Thoroughfare Through Ancon Corral.

The Supply Department authorizes the following:

The road through the Ancon corral is not a public thoroughfare and as traffic is not observing this it is necessary to erect gates to prevent vehicles from using this road unless entering the corral or motor car repair shop on business.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., March 21, 1923. No. 32.

Traffic for First Half of Month Sets New High Record.

A new high record for a half month's traffic was established during the first half of March, when 208 commercial vessels transited the Canal during the first 15 days of the month. Tolls aggregating $935,608.06 were paid on these ships.

The rapid increase in Canal traffic during the past 6 months is shown by the following statement, which gives the aggregate traffic and daily average traffic for the first half-month of each of the past 6 months:

Month.	First 15 days of month.		Daily average.	
	No of ships.	Tolls.	No. of ships.	Tolls.
October	142	$595,306.01	9.5	$36,987.05
November	154	654,582.53	10.3	43,639.47
December	154	691,626.01	10.3	46,108.40
January	156	650,373.60	10.4	48,557.60
February	[1] 161	[1] 698,652.43	11.5	49,903.74
March	208	935,608.06	13.9	62,373.87

[1] 14 days only.

It will be seen that in point of tolls each month shows a consistent gain over the preceding month, the daily average for March being $12,470.13 higher than February's average. The daily average of tolls for March as compared with October shows a gain of more than 68 per cent.

Tolls for the first 15 days of March lacked only $21,118.70 of equalling the tolls for the entire month of March, 1922.

Traffic for First Eight Months of Fiscal Year.

The following comparative statement shows the number of transits of commercial vessels, their aggregate tonnage, tolls, and cargo for the first 8 months of the fiscal year 1923 to March 1, as compared with the corresponding period for the years 1922, 1921, and 1920:

First 8 months of—	No. of transits.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Fiscal year, 1923	2,318	10,445,588	$9,931,283.14	11,078,273
Fiscal year, 1922	1,801	7,463,286	7,340,501.75	6,742,789
Fiscal year, 1921	2,008	7,721,461	7,655,529.38	8,119,583
Fiscal year, 1920	1,598	5,347,074	5,331,469.62	5,803,122

Time of Delivery, New York to West Coast.

The following statement occurs in the marine letter issued by the Seattle Chamber of Commerce under date of February 28:

"During the past 6 months the intercoastal fleet of 36 vessels operated by the American-Hawaiian Line have averaged 30 days from New York to Seattle. The longest passage was 36 days and the quickest 26 days."

The vessels of this line usually call at Los Angeles, San Francisco, and Portland; hence their average time to the west coast as a whole would be even less than the 30 days indicated.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 17, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Canopus [1]	2-21	23.55	11	6.08	11	13.25	.....	.....	American	U. S. Navy	373.9	51.8	22.6	Hampton R'ds	Balboa	.....	.....	.....	.....
Agwilake	3-9	16.18	11	7.25	11	16.08	11	19.59	American	Atl. Gulf & West Indies S. S. Co.	468.3	62.7	18.0	Boston	Los Angeles	Ballast	.....	9,802	7,138
Eastern Planet	10	17.48	11	8.00	11	17.03	11	18.52	American	U. S. & Australasia Line (S. B.)	384.8	51.2	24.6	New York	Brisbane	General, case oil	4,260	6,235	4,480
Steel Engineer	10	13.55	11	9.00	11	19.44	11	21.15	American	U. S. Steel Products Co	424.2	56.2	26.3	Baltimore	Honolulu	General, steel	8,565	7,611	5,450
Penang Maru	10	21.05	11	9.32	11	20.25	11	21.43	Japanese	Nippon Yusen Kaisha	404.0	52.0	22.10	New York	Kobe	(6)	5,000	5,785	4,101
Santa Malta	10	17.39	11	10.30	11	21.11	11	22.18	American	Atlantic & Pacific Steamship Co.	404.6	53.9	24.6	New York	Puget Sound	General	6,200	6,766	4,809
Garfield	11	4.38	11	11.02	11	21.58	12	3.30	American	Grace Line	300.0	45.0	16.0	New York	Pacasmayo	General	1,464	3,256	2,010
Montpelier	11	5.03	11	11.42	11	22.46	12	0.05	American	Amer. Ship. & Com. Nav. Co.	460.0	57.9	25.0	Boston	Los Angeles	General	9,321	6,368	4,161
David McKelvy	11	11.22	11	11.55	11	23.31	12	0.46	American	Tidewater Oil Co	430.0	59.2	19.0	New York	Los Angeles	Ballast	.....	7,629	5,393
Trontolite	11	18.50	12	6.23	12	16.21	12	17.36	British	Imperial Oil Co	420.8	57.0	27.0	New York	Los Angeles	Ballast	.....	7,240	4,947
Durango	11	21.35	12	7.13	12	18.54	12	20.21	American	McAllister Brothers (S. B.)	435.0	56.0	19.0	Mobile	Los Angeles	Ballast	.....	7,642	5,327
Carolinian	12	6.22	12	8.08	12	19.48	12	21.00	American	Garland Line	359.8	50.2	20.4	New York	Seattle	General	3,360	4,642	3,510
Albert Jeffress	12	8.20	12	8.40	12	20.47	12	22.15	American	Garland Line	384.6	51.2	25.9	New Orleans	Los Angeles	General	6,100	6,347	4,453
Tencer	12	6.40	12	11.25	12	21.50	12	23.00	British	Ocean Steamship Co	486.0	58.0	30.0	Boston	Shanghai	General	8,740	9,366	6,474
Agwibay	12	12.27	12	12.45	12	22.50	13	7.59	American	Guarantee Trust Co	468.3	62.7	18.0	Baltimore	Los Angeles	Ballast	.....	9,776	6,942
Santa Teresa	12	19.33	13	6.25	13	13.37	13	15.55	American	Grace Line	360.2	51.6	24.0	New York	Talcahuano	General	2,470	5,726	4,086
Antares [2]	10	0.10	13	7.20	13	14.20	.....	.....	American	U. S. Navy	390.0	52.0	18.6	Hampton R'ds	Balboa	Naval supplies	215	.....	.....
S. B. Hunt	12	19.12	13	7.47	13	16.10	13	17.10	American	Standard Oil Co	429.0	59.0	18.0	Guanica	Los Angeles	Ballast	.....	7,689	5,447
City of Bombay	12	22.17	13	9.02	13	17.09	13	19.10	British	Ellerman Hall Line	401.0	50.8	25.8	New York	Auckland	General, case oil	3,965	5,865	4,426
Siam [3]	12	14.00	13	9.13	13	18.07	13	19.18	Danish	East Asiatic Steamship Co	410.0	55.2	26.4	Copenhagen	Vancouver	General	8,588	7,068	5,303
Pennsylvania Sun	13	4.22	13	10.22	13	19.35	14	0.01	American	Sun Oil Co	480.5	66.0	20.6	Chester	Los Angeles	Ballast	.....	9,325	6,308
Mahia	13	9.35	13	11.00	13	20.35	14	6.55	British	Shaw, Savill & Albion Co	477.6	63.2	27.0	Glasgow	Auckland	General	7,250	11,026	7,912
Canadian Seigneur	12	12.29	13	12.00	13	21.30	13	23.04	British	Canadian Govt. Merchant Marine	400.6	52.0	20.10	Halifax	Auckland	General	4,797	5,893	4,135
Launch [4]	.....	.....	13	.....	13	9.20	.....	.....	Panaman	Chris. Dahl	.....	.....	.....	Cristobal	Gatun Lake	.....	.....	1	1
Henderson [5]	12	16.40	14	6.27	14	13.50	.....	.....	American	U. S. Navy	483.0	60.0	21.0	Washington	Balboa	Naval supplies	102	.....	.....
Kalfarli	13	18.11	14	7.18	14	18.25	14	23.00	Norwegian	D. Steen	414.0	53.7	17.0	Charleston	Humbolt Bay	Ballast	.....	6,615	4,532
Unita	13	23.40	14	7.57	14	19.24	14	22.45	Norwegian	H. M. Wrangell	338.1	48.0	20.6	New Orleans	San Francisco	General	2,600	3,999	2,924
Baychimo	14	6.25	14	8.00	14	20.05	16	1.51	British	Hudson Bay Co	229.2	36.0	15.0	Aedeossan	Vancouver	Textiles	11	1,362	883
Reiyo Maru	14	5.36	14	8.35	14	22.05	15	3.12	Japanese	Toyo Kisen Kaisha	400.0	53.0	22.8	New York	Yokohama	General	6,165	6,310	4,598
Hoven	14	5.55	14	9.03	14	21.45	14	22.49	American	Walker & Daly (S. B.)	434.8	56.2	19.0	New York	Los Angeles	Ballast	.....	7,426	5,144
Bradford	14	7.23	14	10.00	14	22.39	17	14.40	American	Associated Oil Co	426.9	54.6	23.0	Baltimore	San Francisco	Ballast	.....	7,318	5,287
Albaro	10	20.03	14	10.50	14	23.32	15	0.40	Italian	Italian Line	321.0	40.0	19.2	Genoa	Valparaiso	General	799	3,039	2,090
Walter A. Luckenbach	14	10.02	14	11.20	15	0.17	15	1.35	American	Luckenbach Line	446.5	56.1	26.0	New York	Seattle	General	6,567	8,785	6,567
La Paz [3]	13	20.17	14	12.29	15	1.07	15	2.25	British	Pacific Steam Navigation Co	406.0	54.2	23.0	Hull	Valparaiso	General	8,101	7,216	4,912
Kentuckian	14	13.10	14	13.27	15	1.53	15	3.10	American	American-Hawaiian Line	429.2	53.6	25.0	Boston	Los Angeles	General	5,420	7,049	4,941

[1] Submarine tender. [2] Supply ship. [3] Motor ship. [4] Tender to *Arabia*. [5] Transport. [6] Cotton, machinery, ammonia, and general.

Pear Branch	14	13.25	15	6.15	15	13.40	15	15.05	British	Nautilus Steamship Co	398.6	53.9	18.6	Liverpool	Valparaiso	General	2,928	5,760	3,866
Patuxent [7]			15	6.30	15	13.37			American	U. S. Navy	156.0	29.0		Cristobal	Balboa				
Tilthorn	14	17.32	15	7.30	15	15.10	15	17.05	Norwegian	O. Grolle and T. Olsen	420.2	53.9	16.0	Norfolk	Mejillones	Ballast		6,591	4,730
Commercial Pathfinder	14	18.52	15	7.55	15	16.30	15	17.45	American	Moore & McCormack, Inc.	395.1	49.4	22.6	New York	Los Angeles	General	5,201	5,220	3,734
Byron D. Benson	15	4.47	15	8.55	15	17.23	15	18.25	American	Tidewater Oil Co	465.4	60.2	19.0	New York	Los Angeles	Ballast		8,546	6,095
J. C. Donnell	15	6.12	15	9.23	15	18.18	15	19.24	American	Atlantic Refining Co	500.0	68.2	26.0	Philadelphia	Los Angeles	Ballast		10,435	7,900
Mantaro	6	15.00	15	9.47	15	19.50	15	20.53	Peruvian	Peruvian Line	360.3	46.0	18.10	Cristobal	Callao	General	815	4,838	2,959
Japan Arrow	15	6.18	15	10.35	15	20.45	15	22.02	Japanese	Standard Oil Co	468.3	62.7	20.0	New York	Los Angeles	Ballast		10,084	7,485
Neches [8]	15	10.15	15	11.10					American	U. S. Navy	475.7	56.2	25.6	Port Arthur	Balboa	(11)			
Persian Prince	15	11.25	15	11.45	15	22.00	15	23.34	British	Persian Line, Ltd	405.0	52.8	23.0	Antwerp	Vancouver	General	7,000	5,842	4,061
City of Para	6	21.30	15	12.05	15	22.42	16	11.40	Panaman	Pacific Mail Steamship Co	345.0	38.6	18.11	Cristobal	Champerico	General	909	3,739	2,459
Admiral Codrington	14	8.20	15	13.15	15	23.25	16	0.40	British	Poverty Bay Farmers' Meat Co	420.0	54.0	18.0	Cardiff	Gisborne	Ballast		6,677	4,845
Bogstad	15	14.03	16	6.17	16	13.38	16	19.30	Norwegian	Fearnley & Eger	385.0	54.0	13.6	New York	Cruz Grande	Ballast, general		5,843	4,288
Santa Veronica	15	16.30	16	6.30	16	14.26	16	20.02	American	Amer. & Cuban Mail S. S. Co	251.0	43.6		Baltimore	Seattle	Steel, tin plate	3,466	2,823	1,740
West Ketan	15	17.32	16	7.43	16	15.18	16	23.20	American	Swayne & Hoyt (S. B.)	410.5	54.3	24.0	Buenos Aires	San Francisco	General	7,182	6,573	4,901
Aysen	12	19.10	16	7.57	16	16.08	16	17.08	Chilean	Chilean Steamship Line	379.6	44.5	21.0	Cristobal	Valparaiso	General	1,559	4,535	3,068
Samuel Q. Brown	16	3.10	16	8.44	16	17.07	16	20.21	American	Tidewater Oil Co	424.4	58.2	25.8	New York	Los Angeles	Ballast		7,333	5,246
Brush	16	6.40	16	9.15	16	18.09	17		American	N. Atl. & Western S. S. Co	390.0	54.2	22.0	Boston	Seattle	General	5,225	6,209	4,317
Steel Scientist	16	4.08	16	11.30	16	19.11	16	20.30	American	U. S. Steel Products Co	424.2	56.2	26.6	Boston	San Diego	Steel, general	8,462	7,611	5,454
Brazos [8]	15	11.34	16	12.55	16	20.00			American	U. S. Navy	475.7	56.2	24.6	Port Arthur	Balboa	Gesoline, fuel oil	6,953		
Kenuta	16	11.47	16	13.05	16	20.52	16	22.04	British	Pacific Steam Navigation Co	412.0	52.0	21.0	Glasgow	Puerto Montt	General	5,697	6,420	4,704
Port Auckland	16	13.20	16	14.20	16	22.07	16	23.20	British	Commonwealth & Dom. Line	480.0	62.0	25.10	New York	Sydney	General	2,676	10,862	8,192
Birk	16	14.08	17	6.25	17	14.11	17	15.15	Norwegian	A. S. R. Odfjell	359.0	52.0	12.0	New York	Chile	Ballast		4,751	3,160
Dorset	16	12.35	17	7.10	17	15.44	17	17.05	British	Federal Steam Navigation Co	460.0	58.2	27.2	London	Hawkes Bay	General	6,400	9,188	6,581
Talamanca [9]	16	8.30	17	7.40	17	15.41	17		Panaman	United Fruit Co	67.0	18.0	8.0	Cristobal	Balboa	Ballast		40	27
Ballena	16	16.19	17	8.14	17	16.34	17	17.43	British	Pacific Steam Navigation Co	400.0	52.0	19.0	Hull	Callao	Cable, coal, gen	1,746	5,816	4,113
Haarlem	16	7.10	17	8.47	17	17.23	17	18.25	Dutch	Royal Netherlands W. I. Mail Co	374.0	50.0	19.6	Hamburg	Corral	General	3,760	4,759	3,660
Hull No. 330 [10]	15	17.25	17	9.00	17	17.17			American	U. S. Navy	310.0	30.11½		Cristobal	Balboa				
Corry No. 334 [10]	17	3.10	17	9.00	17	17.17			American	U. S. Navy	310.0	30.11½		Cristobal	Balboa				
Cauca	14	21.35	17	9.18	17	18.08	17	19.24	British	Pacific Steam Navigation Co	246.0	35.0	14.10	Cristobal	Corinto	Ballast		1,589	1,018
Cerro Ebano	17	0.28	17	9.51	18	15.25			American	Pan-American Petroleum Co	480.5	66.0	21.0	Tampico	Los Angeles	Ballast		9,398	6,453
Anomia	17	6.42	17	10.37	17	18.55	17	23.35	British	Anglo-Saxon Petroleum Co	400.6	52.5	20.0	Las Palmas	Los Angeles	Ballast			
Chuky	17	7.35	17	11.10	17	20.00	17	21.44	British	Sheridan Steamship Co	440.8	56.0	26.0	Tampico	Tocopilla	Fuel oil	9,500	7,691	4,723
Murex	17	11.20	17	11.55	17	20.43	18	11.04	British	Anglo-Saxon Petroleum Co	412.2	53.0	18.6	Avonmouth	San Francisco	Ballast			

[7] Tug. [8] Tanker. [9] Motor schooner. [10] Destroyer.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

[11] 55,000 barrels of oil for U. S. fleet.

Tjibesar	10	6.30	11	7.20	11	15.25	11	15.25	Dutch	Java-China-Japan Line	500.0	63.6	29.7	Caleta Colosa	Eng. Channel	Nitrate	13,092	11,700	8,274
Bjornsterne Bjornson	11	1.00	11	8.51	11	16.45	11	16.45	Norwegian	Oalf Orvis	410.0	54.0	26.6	Mejillones	Wilmington	Nitrate	8,600	6,304	4,752
Halsey	11	7.30	11	9.50	11	17.40	12	4.45	American	Walker & Daly	435.0	56.0	27.3	San Pedro	Fall River	Oil	8,933	7,642	5,324
Steelmaker	11	9.45	11	12.10	11	19.55	11	22.20	American	Isthmian Line	395.5	55.0	25.0	Westport, Ore.	Philadelphia	Lumber	4,766	7,285	5,256
James B. Duke	11	10.45	11	12.47	11	20.52	11	20.50	American	Garland Steamship Corporation	385.0	51.2	22.0	Prescott, Ore.	New York	Lumber	5,400	6,241	4,471
Marore	11	9.05	11	15.58	12	15.05	12	16.05	American	Ore Steamship Corporation	550.3	72.2	32.6	Cruz Grande	Baltimore	Iron ore	20,000	15,551	4,297
Solana	11	12.05	12	7.12	12	16.10	12	16.10	American	Pacific Mail Steamship Co	419.0	56.5	26.10	San Pedro	Bayonne, N. J.	Oil	10,450	7,043	5,041
Nobel	11	17.50	12	8.16	12	17.50	13	10.56	Norwegian	Portagos Steamship Co	140 4	28.6	9.0	Callao	Cristobal [12]	Ballast		396	307

[12] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Denderah	11	21.00	11	8.40	12	17.00	12	19.20	German	Kosmos Line	361.0	51.0	22.6	Corral	Hamburg	General	5,300	4,924	3,524
Hull, No. 330 [13]			12	9.56	12	17.09	13		American	U. S. Navy	238.9	23.0		Balboa	Cristobal				
Corry, No. 334 [13]			12	9.56	12	17.09	13		American	U. S. Navy	238.9	23.0		Balboa	Cristobal				
Arawa	11	12.00	12	10.07	12	18.15	13	4.15	British	Shaw, Saville & Albion	459.5	60.5	26.0	Wellington	London	General	7,099	10,035	7,504
El Monticello	12	3.45	12	10.53	12	20.30	14	14.40	Spanish	Barrio de Santander	330.5	48.9	20.0	Iquique	Bilbao	Nitrate	4,955	3,464	2,310
Aysen	11	18.30	12	12.10	12	19.10	16	7.57	Chile	Chilean Line	376.6	43.0	21.0	Valparaiso	Cristobal	General	339	4,535	3,068
Dakotan	12	8.55	12	12.49	12	21.10	12	21.20	American	United American Lines	407.7	53.7	24.0	Seattle	New York	General	5,510	7,156	5,058
Agwipond	11	20.55	12	14.12	12	22.25	12	22.25	American	Ward Line	498.3	62.7	27.0	San Pedro	Fall River	Oil	12,200	9,810	7,052
Electrician	12	19.00	13	16.48	13	14.45	13	14.47	British	T. and J. Harrison	385.0	52.0	22.0	Vancouver	Liverpool	General	6,339	5,158	3,674
Ardmore	13	7.40	13	9.01	13	18.20	13	19.38	American	International Petroleum Co	449.5	59.6	26.0	Callao	New York	Oil	10,451	8,612	6,457
Agwismith	12	21.15	13	9.55	13	19.26	13	19.26	American	Ward Line	499.9	68.1	29.5	San Pedro	New York	Oil	15,000	10,600	8,071
H. M. Storey	13	12.30	13	13.39	13	22.47	13	22.47	American	Standard Oil Co	500.0	68.2	29.6	Los Angeles	Baltimore	Oil	15,000	11,224	7,849
Kiel	13	16.15	14	6.55	14	14.56	14	23.24	German	Kosmos Line	339.0	47.3	24.6	Mazatlan	Hamburg	General	3,000	4,436	2,764
Andrea F. Luckenbach	13	20.10	14	8.03	14	15.33	14	15.35	American	Luckenbach Line	496.0	68.0	27.6	Los Angeles	Philadelphia	General	9,600	11,486	8,762
Stephen R. Jones	14	0.15	14	8.58	14	17.20	14	20.35	American	Crowell & Thurlow	354.0	49.0	22.6	Everett	Baltimore	General	697	4,627	3,277
Venezuela	13	18.00	14	9.52	14	17.30	16	0.30	American	Pacific Mail Steamship Co	380.0	48.0	26.6	San Francisco	New York	General	3,500	6,033	4,353
Kinderdijk	14	4.00	14	10.11	14	20.05	15	15.03	Dutch	Holland-American Line	469.4	58.2	26.6	San Pedro	Hamburg	General	8,075	8,515	6,060
Santa Teela	14	9.10	14	11.48	14	21.17	15	10.53	American	Grace Line	298.6	46.0	13.0	Pacasmayo	New York	General	555	2,832	1,893
Cauca	14	9.40	14	11.54	14	21.55	17	9.18	British	Pacific Steam Navigation Co	246.0	32.0	17.6	Acajutla	Cristobal	Coffee, general	1,093	1,789	1,018
Durban Maru	14	11.00	14	13.25	14	22.23	14	22.23	Japanese	Nippon Yusen Kaisha	420.0	56.0	23.0	Hongkong	New York	General	9,095	7,445	5,345
Charles Pratt	14	11.30	14	14.09	15	0.36	15	0.36	American	Standard Oil Co	500.0	68.0	29.8	San Pedro	Charleston	Oil	15,454	10,313	7,492
Greenwich	14	17.00	15	7.09	15	15.45	15	15.45	British	Watts, Watts & Co	341.0	46.6	23.0	Caleta Colosa	Norfolk [15]	Nitrate	5,400	3,974	2,929
O-1 [14]			15	7.14	15	16.10			American	U. S. Navy				Balboa	Cristobal				
General G. W. Goethals	14	11.30	15	7.54	15	16.36	16	15.10	American	Panama Railroad Steamship Line	353.0	48.7	18.6	Guayaquil	New York	General	1,193	5,226	3,617
Gene Crawley	15	7.00	15	9.59	15	19.09	16	6.15	American	Sinclair Navigation Co	304.7	43.7	17.6	Corinto	New Orleans	Ballast		3,332	2,512
Ensley City	15	4.00	15	8.46	15	18.10	15	21.05	American	Isthmian Steamship Co	395.5	55.0	27.6	Antofagasta	Cristobal	Nitrate	9,000	7,330	5,239
Agwisan	15	7.00	15	14.10	15	23.37	15	23.37	American	Ward Line	429.3	59.2	26.6	Los Angeles	Fall River	Oil	10,400	7,612	5,319
Ucayali	15	6.00	15	14.28	15	21.50			Peruvian	Peruvian Line	374.7	46.3	19.6	Iloilo	Cristobal	General	1,455	4,466	2,405
Frank G. Drum	15	16.00	16	6.44	16	15.03	16	16.05	American	Associated Oil Co	435.0	56.2	26.9	Los Angeles	Fall River	Oil	7,000	7,525	5,125
Steel Trader	16	11.50	16	12.23	16	21.00	17	5.00	American	Isthmian Steamship Lines	424.2	56.2	26.0	Vancouver	Avonmouth	General	8,153	7,611	5,450
Steel Seafarer	16	23.30	17	7.00	17	15.30	17	15.30	American	Isthmian Steamship Lines	424.2	56.2	24.6	Vancouver	Boston	General, lumber	8,760	7,611	5,454
Fred W. Weller	16	23.00	17	8.18	17	17.30	17	17.30	American	Standard Oil Co	500.0	68.0	29.0	San Pedro	New York	Oil	15,067	10,928	7,832
Bogota	17	7.00	17	9.45	17	18.40	17	23.50	British	Pacific Steam Navigation Co	400.0	52.4	23.9	Corral	London	General	6,382	5,733	4,015

[13] Destroyer. [14] Submarine. [15] For orders. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

MOVEMENTS OF OCEAN VESSELS—Continued.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
March 11	Abangarez	United Fruit Co	New Orleans via wayports.	March 12	Abangarez	United Fruit Co	Bocas del Toro.
March 11	Camden	United Fruit Co	Tampico.	March 13	Camden	United Fruit Co	Tampico.
March 12	P. de Satrustegui	Spanish Line	Barcelona via wayports.	March 13	Ulysses	Panama Railroad Steamship Line	Norfolk.
March 13	Venezuela	Royal Netherlands W. I. Mail	Amsterdam via wayports.	March 13	Venezuela	Royal Netherlands W. I. Mail Co	Port Limon.
March 13	Oranian	Leyland Line	Liverpool via wayports.	March 14	San Gil	United Fruit Co	Boston via Port Limon.
March 13	Cristobal	Panama Railroad Steamship Line	New York via Haiti.	March 14	P. de Satrustegui	Spanish Line	Barcelona via wayports.
March 14	San Gil	United Fruit Co	Boston via Habana.	March 14	Oranian	Leyland Line	Mobile.
March 14	Cartago	United Fruit Co	New Orleans via wayports.	March 15	Metapan	United Fruit Co	New York via Kingston.
March 15	Metapan	United Fruit Co	Colombian ports.	March 15	Abangarez	United Fruit Co	New Orleans.
March 15	Abangarez	United Fruit Co	Bocas del Toro.	March 15	Cartago	United Fruit Co	New Orleans via wayports.
March 15	Sixaola	United Fruit Co	New York via Kingston.	March 16	Sixaola	United Fruit Co	Colombian ports.
March 16	Pastores	United Fruit Co	New York via wayports.	March 16	Corry, No. 334 [23]	U. S. Navy	High seas.
March 15	Corry, No. 334 [23]	U. S. Navy	High seas.	March 17	Bayano	Elders & Fyffes, Ltd	Kingston.
March 16	Venezuela	Royal Netherlands W. I. Mail Co	Port Limon.	March 17	Pastores	United Fruit Co	New York via wayports.
March 17	Bayano	Elders & Fyffes, Ltd	Port Limon.				
March 17	Puerto Rico	French Line	St. Nazaire via wayports.				

PORT OF BALBOA.

March 14	Coalinga	Union Oil Co	Port San Luis.	March 11	Tustem	Struthers & Barry	Port San Luis.
March 16	Seiyo Maru	Toyo Kisen Kaisha	Valparaiso.	March 16	Coalinga	Union Oil Co	Los Angeles.
				March 17	Seiyo Maru	Toyo Kisen Kaisha	San Francisco.

*Other than ships passing through the Canal.

Report of Cargo Discharged and Laded from Vessels Entering and Clearing from Port of Balboa for Week Ending March 17, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo.	
				Discharged	Laded.
				Tons.	*Tons.*
Aysen	Chilean Line	March 11	March 12	111	.....
Venezuela	Pacific Mail Steamship Co.	March 13	March 14	34	.....
La Paz	Pacific Steam Navigation Co.	March 14	March 14	1	.....
Unita	Asiatic-American Steamship Co.	March 14	March 14	.....	4
Coalinga	Union Oil Co. of California	March 14	March 15	10,000	.....
Gen. G. W. Goethals	Panama Railroad Steamship Line	March 14	March 15	.....	188
Seiyo Maru	Toyo Kisen Kaisha	March 16	March 17	5	5
City of Para	Pacific Mail Steamship Co.	March 15	March 16	4	.....
Brazos	U. S. Navy	March 16	.....	7,857	.....
Neches	U. S. Navy	March 16	.....	7,143	.....
Colombia	Pacific Mail Steamship Co.	March 17	March 18	13	5

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops during the week ended March 17:

Steamships *Venezuela*, weld crack in after starboard boiler; renew coupling bolts, line up engine, repair crank shaft bearing and face off coupling on crank shaft of fan engine; renew miscellaneous piping and manufacture oil strainer; manufacture 12 grate bars, etc.; *Haarlem*, electric weld and repair boiler; *Admiral Codrington*, take pin out of valve seat and make and fit new pin; cast 2 new guards and fit to valve seat; manufacture 2 new nuts and 2 copper pipes as sketch; *Cauca*, renew wrought iron elbow on ballast pump discharge; face up shuttle and valve for Weir's pump, also repair lubricating valve; renew section of water service pipe for main engine; install lugs for pipe guards on deck, etc.; *Pastores*, repair rudder; tug *Bolivar*, bore H. P. cylinder, port engine and install full length liner; refit cylinder head to suit; make new piston and rod complete; manufacture 2 extra rings for spares; renew follower head bolts and install copper washers under each bolt; reassemble H. P. end of engine, etc.; steamship *Balboa*, weld and reinstall bitt; install guard over steam pipe from bridge to forecastle; U. S. S. *Cuyama*, make new crank shaft, 2 bronze pump runner shafts; weld and bore pump runner and fit to new shaft, manufacture 2 brass bushings and rebabbitt 2 bearings for circulating engine; cast and machine new gear for anchor windlass; yacht *Noma*, repair boiler, steering chains, boat davit, hot well float, plumbing, skylight and motor boat rudder; install engine in motorboat; furnish 20 men for washing off ship's side, etc.; steamships *Cristobal* and *Atenas*, minor repairs.

Quarantine Against Foot and Mouth Disease.

THE PANAMA CANAL, HEALTH DEPARTMENT,
BALBOA HEIGHTS, C. Z., March 14, 1923.

To all concerned—On account of the prevalence of foot and mouth disease in Honduras and Guatemala, and on account of the contiguity of Salvador, Nicaragua and Costa Rica to these countries and the reported overland interchange of cattle between them, effective at once the following are prohibited entry into the Canal Zone or the cities of Panama and Colon, either permanently or for transshipment:

Horses, mules, asses, cattle, sheep, swine and goats, unless accompanied by American Consular certificate that they have not come from a locality where foot and mouth disease prevails or that they be subjected after arrival to such disinfection as the Chief Quarantine Officer may direct; chickens, or any other domesticated fowls; hay, grain, straw, or goods packed in grass, hay or straw, from the Republics of Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica.

Other articles of cargo or baggage and ships carrying same will be disinfected at the discretion of the Chief Quarantine Officer.

W. C. RUCKER,
Chief Quarantine Officer.

Approved:
JAY J. MORROW,
Governor.

Supplement No. 10 to Tariff No. 6.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., March 10, 1923.

ITEM 22.—FUEL AND DIESEL OILS.

(Effective March 15, 1923.)

2. Diesel oil, per barrel of 42 gallons, delivered to vessels at Cristobal.... $2 75

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective March 16, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.2875
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity ..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton ..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Cristobal[1]	March 5	March 10	March 13	March 19	March 22	March 26.
Gen. W. C. Gorgas	March 15	March 21	March 24	March 30	April 2	April 7.
Panama	March 24	March 29	April 1	April 9	April 12	April 16.
Cristobal [1]	April 4	April 9	April 12	April 18	April 21	April 25.
Gen. W. C. Gorgas	April 14	April 20	April 23	April 29	May 2	May 7.
Panama	April 25	April 30	May 3	May 9	May 12	May 16.
Cristobal [1]	May 5	May 10	May 13	May 19	May 22	May 26.
Gen. W. C. Gorgas	May 15	May 21	May 24	May 29	June 1	June 6.
Panama	May 25	May 30	June 2	June 9	June 12	June 16.

Steamers sail at 3 p. m. from Pier 67, North River, foot of West 27th St., New York.
[1] Sails 3 p. m. from pier 65, North River, foot of West 25th St.

WEST COAST SERVICE.

In addition, a regular freight service is maintained direct to Buenaventura and Ecuadorian ports by the steamships *General O. H. Ernst* and the *General G. W. Goethals*, and other steamers.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal, or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., March 28, 1923. No. 33.

Visit of the Secretary of the Navy.

The Hon. Edwin Denby, Secretary of the Navy, accompanied by a large Congressional party and representatives of the press, arrived at Cristobal on board the Naval transport *Henderson* on March 12. On the following day the *Henderson*, with the Secretary on board, passed through the Canal and joined the combined Atlantic and Pacific fleets, which were lying at anchor in Panama Bay, off the fortified islands. The Secretary then went on board the U. S. S. *Maryland*, the flagship of Admiral Hilary P. Jones, commanding the combined fleets, and the members of the Congressional party and the newspaper men were distributed to various battleships, whence they witnessed the maneuvers, tactical exercises, and special firing, terminating in the sinking by gunfire on March 22 of the dismantled battleship *Iowa*.

During the Secretary's stay on the Isthmus there were the usual official entertainments in his honor both in Panama and the Canal Zone.

The *Henderson* sailed from Balboa for Washington via several West Indian ports on the morning of March 26.

Grounding of Tanker "Pennsylvania" on Quita Sueño Bank.

The tug *Tavernilla* was despatched by The Panama Canal March 23 to the relief of the tanker *Pennsylvania*, ashore at the south end of Quita Sueño Bank, off the coast of Nicaragua, about 300 miles north-northwest of Cristobal. On the following day the salvage steamer *Favorite* was sent through the Canal from Balboa, on her way to the *Pennsylvania*, clearing on that evening. The vessels were sent on request of the *Pennsylvania's* operators, the Texas Company, which cabled the request through the New York office of the Panama Railroad Company.

A radio report from the *Favorite* in the morning of March 28 stated that the *Pennsylvania* was pulled off the bank at 8.15 a. m. that day and was floating in good condition.

Sinking of the Old "Iowa."

At the termination of the Naval maneuvers in Panama Bay the obsolete battleship *Iowa*, fitted with radio devices which permitted distant control of its engines and steering gear, was sent to the bottom by the guns of the battleship *Mississippi*.

The firing was spread over 2 days. On the first day, March 21, one hundred and eight 5-inch and eighty 14-inch shells were fired. These projectiles had instantaneous fuses to explode on contact and do as little damage as possible to the ship. When firing ceased the bow of the *Iowa* was 3 feet under water, but the special radio apparatus was still intact, and it was possible to keep the vessel afloat until the following day. On March 22 the practice concluded with 9 salvos from six 14-inch guns firing regulation armor-piercing shells. The ninth salvo was fired at 4.13 p. m., and the *Iowa* sank 4 minutes later in 75 fathoms of water, Lat. 8° 01′ 15″ N., Long. 79° 28′ 15″ W., approximately 55 miles south of Balboa.

CANAL WORK IN FEBRUARY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of February, 1923:

BALBOA HEIGHTS, C. Z., March 17, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering the operations of The Panama Canal during the month of February, 1923:

NUMBER OF TRANSITS.

The total number of vessels and craft of all kinds transiting the Canal during the month of February, 1923, as compared with total transits for the corresponding month in 1922, and 1921, is shown in the following table:

	February, 1923.	February, 1922.	February, 1921.
Commercial vessels	326	212	241
Noncommercial vessels (Army and Navy)	94	12	94
Transiting Canal for repairs	1	.....	.....
Launches, etc. (under 10 tons measurement)	4	5	3
Total vessels transiting Canal	425	229	338

February established a new Canal record for number of transits, exceeding by 50 the previous high month. This high record is due in part to the transit of the Atlantic Fleet through the Canal during the week ending February 17, and in part to the month's heavy commercial traffic, which, with the exception of January of this year, is the greatest to have used the Canal to date. The average daily number of transits of commercial vessels and average daily receipts from tolls were the highest of any calendar month to date, but owing to February's having but 28 days the aggregate monthly tolls were slightly under January's figures.

In addition to the vessels listed above, Panama Canal equipment consisting of dredges, tugs, barges, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	3	3	6
Pedro Miguel	37	42	79
Miraflores	22	19	41

COMMERCIAL TRAFFIC.

The following shows a summary of the February, 1923, traffic as compared with the traffic in the corresponding month in 1922 and in 1921, and with the average per month for the calendar year 1922:

	February, 1923.	February, 1922.	February, 1921.	Average per month for calendar year 1922.
Number of vessels	326	212	241	250
U. S. equivalent tonnage	1,237,806	710,548	763,925	864,647
Panama Canal net tonnage	1,529,547	886,535	916,838	1,082,714
Registered gross tonnage	1,943,694	1,105,036	1,179,979	1,359,595
Registered net tonnage	1,231,729	700,126	752,022	959,176
Tolls	$1,423,954.21	$866,266.18	$917,412.79	$1,047,783.98
Tons of cargo carried	1,563,278	838,074	952,904	1,142,546

AVERAGE TONNAGE, TOLLS, AND CARGO PER VESSEL.

The average tonnage, tolls, and cargo per vessel transiting the Canal during the month are shown in the following statement, affording also a comparison with the month of February in 1922 and in 1921. It will be noted that the average cargo per vessel is considerably larger than 1 and 2 years ago, which is accounted for chiefly by the many tankships at present transiting the Canal, carrying relatively large cargoes:

	February, 1923.	February, 1922.	February, 1921.
United States equivalent net tonnage	3,797	3,351	3,170
Panama Canal net tonnage	4,692	4,182	3,804
Registered gross tonnage	5,962	5,264	4,896
Registered net tonnage	3,778	3,302	3,120
Tolls	$4,367.96	$4,086.16	$3,806.69
Tons of cargo (including vessels in ballast)	4,825	3,953	3,954
Tons of cargo (laden vessels only)	6,012	4,411	4,495

UNITED STATES INTERCOASTAL TRAFFIC.

The United States intercoastal traffic was the heaviest to have transited the Canal during any month to date. It was approximately three times the volume of the intercoastal traffic passing through the Canal in February a year ago.

The following statement shows the volume of intercoastal traffic transiting the Canal during the month of February for the past 4 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
February, 1923	73	387,649	238,622	50	215,173	423,958
February, 1922	25	117,512	94,548	19	89,862	84,330
February, 1921	15	80,940	67,302	17	66,043	68,345
February, 1920	8	49,567	28,733	15	72,226	89,723

Approximately 2 out of every 3 vessels of United States registry transiting the Canal during February, 1923, were engaged in the intercoastal trade, as is seen from the following summary:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
United States intercoastal trade	123	602,822	$597,982.90	662,580
Other than United States intercoastal	56	305,851	243,978.20	296,713

UNITED STATES SHIPPING BOARD VESSELS.

Twenty-two vessels of the United States Shipping Board transited the Canal during the month of February, 1923; of these, 12 were employed in the United States intercoastal trade.

The following statement shows the number of transits, aggregate net tonnage, and cargo tonnage of Shipping Board vessels transiting the Canal during February for the past 3 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
February, 1923	12	59,803	38,192	10	56,572	70,928
February, 1922	8	39,168	49,424	6	32,909	21,119
February, 1921	8	41,024	35,018	20	96,441	108,285

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show by principal geographical areas, the origin and destination of all tonnage passing through the Canal during February, 1923, as compared with the corresponding month in 1922 and in 1921, the figures representing the net tonnage of vessels, according to the Panama Canal rules of measurement:

ORIGIN OF ALL TONNAGE TRANSITING THE CANAL FROM ATLANTIC TO PACIFIC.

	February, 1923.	February, 1922.	February, 1921.
East coast of United States	583,295	273,996	272,494
Europe (including British Isles)	211,093	146,572	75,532
East coast of Mexico	14,868	30,477	55,859
Cristobal, C. Z.	15,864	19,061	18,844
East coast of South America	6,065	4,796	478
Remaining	9,191	13,103	12,026
Totals	840,376	488,005	435,233

DESTINATION OF ALL TONNAGE TRANSITING CANAL FROM ATLANTIC TO PACIFIC.

	February, 1923.	February, 1922.	February, 1921.
West coast of United States	474,078	151,388	119,271
West coast of South America	196,200	108,098	168,904
Australasia	85,729	94,271	62,507
Far East	63,713	107,197	66,958
West coast of Canada	18,045	20,322	6,379
West coast of Mexico and Central America	2,611	6,729	11,214
Totals	840,376	488,005	435,233

ORIGIN OF ALL TONNAGE TRANSITING CANAL FROM PACIFIC TO ATLANTIC.

	February, 1923.	February, 1922.	February, 1921.
West coast of United States	331,613	142,693	173,815
West coast of South America	207,617	111,400	226,242
West coast of Canada	78,634	61,440	11,564
Australasia	41,619	42,950	34,616
Far East	20,137	21,594	22,473
West coast of Mexico and Central America	9,551	18,453	12,895
Totals	689,171	398,530	481,605

DESTINATION OF ALL TONNAGE TRANSITING CANAL FROM PACIFIC TO ATLANTIC.

	February, 1923.	February, 1922.	February, 1921.
East coast of United States	437,551	172,900	170,618
Europe (including British Isles)	195,073	163,919	195,301
Cristobal, C. Z.	14,007	18,242	18,054
East coast of Mexico	4,885	33,863	74,363
East coast of South America	8,443	5,536	.....
Remaining	29,212	4,070	23,269
Totals	689,171	398,530	481,605

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of February, 1923, was $1,423,954.21. Had the net tonnage as determined by The Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from this source would have been increased by $260,216.03, distributed by nationality of vessels as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$31,046.30	$29,155.64	$60,201.94
Chilean	1,554.65	2,548.10	4,102.75
Colombian	[1] 9.30	.....	[1] 9.30
Dutch	8,420.40	3,669.30	12,089.70
French	.....	2,339.25	2,339.25
German	6,793.85	1,117.25	7,911.10
Greek	.....	932.65	932.65
Italian	686.85	1,736.35	2,422.20
Japanese	4,100.75	1,661.30	5,762.05
Norwegian	909.45	5,441.65	6,351.10
Panaman	.....	40.43	40.43
Peruvian	3,318.10	1,641.60	4,959.70
Spanish	.....	1,077.90	1,077.90
Swedish	2,535.70	.....	2,535.70
United States	58,270.96	91,226.90	149,497.86
Totals	117,627.71	142,588.32	260,216.03

[1] Credit.

The additional tolls that would have been assessed against vessels of United States registry would have been made up with respect to channels of trade in which the vessels were engaged, as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	$45,265.22	$64,567.05	$109,832.27
United States and United States possessions	653.50	2,182.75	2,836.25
United States and Canal Zone ports	771.64	774.70	1,546.34
United States and foreign ports	11,580.60	22,639.30	34,219.90
Between foreign ports	.....	1,063.10	1,063.10
Totals	58,270.96	91,226.90	149,497.86

Of the additional $260,216.03 that would have accrued by using exclusively The Panama Canal rules of measurement, $11,742 represents the sum that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in February, 1923, is shown in the following table, segregated by nationality of vessels; laden cargo vessels only are included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.03	1.36	1.20
Chilean	.25	.10	.15
Colombian	.....	1.50	1.00
Danish	.....	1.90	1.90
Dutch	.60	1.57	1.00
French	.....	1.52	1.52
German	.84	1.41	.94
Greek	.....	2.02	2.02
Italian	.20	.78	.58
Japanese	1.18	1.63	1.34
Norwegian	1.31	1.83	1.76
Panaman	.....	2.13	2.13
Peruvian	.23	.80	.52
Spanish	.....	1.92	1.92
Swedish	1.25	.....	1.25
United States	1.27	1.50	1.41
Average ratio, February, 1923	1.11	1.47	1.31
Average ratio, February, 1922	1.00	1.11	1.05
Average ratio, February, 1921	1.12	1.22	1.17

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.62	1.56	1.07
United States and South America	.36	1.62	1.13
United States and Europe	.94	1.52	1.20
United States and Far East	1.31	1.04	1.26
Europe and South America	.31	1.44	.76
Europe and Australasia	.77	1.00	.81
Europe and Canada	.39	1.47	1.31
Cristobal, C. Z., and South America	.25	.35	.27
United States and Australasia	1.26	1.13	1.00

COMMODITY STATISTICS.

The amount of cargo passing through the Canal during February totaled 1,563,278 long tons, and was an increase of 87 per cent over February a year ago. Of the total, 999,839 tons were bound from the Pacific to the Atlantic. This is the greatest 1-way cargo movement through the Canal during any month to date.

The following commodity statistics, compiled from cargo declarations submitted by ships' masters, while incomplete, are indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. A brief summary of the principal items is shown below, the figures representing tons of 2,240 pounds:

Commodity.	February, 1923.	February, 1922.	February, 1921.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	145,273	109,575	48,914
Railroad material	8,410	7,473	12,678
Machinery	8,964	7,920	4,544
Textiles and miscellaneous	21,237	2,749	7,730
Mineral oils:			
Crude petroleum	19,453	41,755	105,069
Refined	35,776	28,893	61,680
Coal and coke	24,100	32,545	90,101
Metals	25,220	12,246	5,396
Sulphur	14,432	15,400	15,414
Cotton	8,732	18,218	6,423
Paper	7,781	2,198	4,051
Silver sand	7,500	.....	2,492
Cement	7,360	4,662	9,731
Creosote	6,930	.....	.....
Automobiles	4,939	1,044	493
Tobacco	4,344	3,923	2,420
Other and unclassified	212,988	154,224	97,736
Totals, Atlantic to Pacific	563,439	442,825	474,872
Pacific to Atlantic.			
Mineral oils:			
Crude petroleum	306,103	10,505	.....
Refined	40,486	7,307	21,322
Nitrate	183,344	27,022	191,928
Lumber	147,948	64,002	36,518
Wheat	42,686	57,514	79,201
Metals, various	31,106	14,659	9,540
Ores, various	34,642	32,265	5,546
Canned goods	23,735	20,437	5,635
Barley	16,578	6,596	12,687
Sugar	15,612	3,624	13,818
Beans, peas, lentils	11,289	3,766	2,565
Fruit, fresh and dried	9,738	11,549	183
Copra	8,467	9,542	.....
Coffee	8,371	9,484	4,341
Wool	6,434	18,363	5,977
Flour	5,351	3,796	12,316
Other and unclassified	107,949	94,818	76,455
Totals, Pacific to Atlantic	999,839	395,249	478,032

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of February, 1923, was published in THE PANAMA CANAL RECORD under date of February 7, 1923.

The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo carried over the principal trade routes during February, 1923, as compared with the traffic passing through the Canal over these routes for the corresponding month in 1922 and in 1921:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	February, 1923.	February, 1922.	February, 1921.	February, 1923.	February, 1922.	February, 1921.
United States coastwise ports	73	25	15	50	19	17
United States and South America	17	11	26	25	12	17
Europe and South America	22	10	9	17	11	20
United States and Far East	13	17	15	3	3	4
Europe and United States	13	14	2	8	9	13
Europe and Canada	1	2	.....	9	6	.....
Europe and Australasia	6	9	4	6	5	5
United States and Australasia	7	4	6	8	1	2
Mexico and South America	2	4	5	1	2	7
Cristobal and South America	7	12	4	7	10	11
United States and Canada	2	2	.....	7	4	1
Miscellaneous	12	4	28	10	16	30
Totals	175	114	114	151	98	127

	Atlantic to Pacific.			Pacific to Atlantic.		
	Panama Canal net tonnage.			Panama Canal net tonnage.		
	February, 1923.	February, 1922.	February, 1921.	February, 1923.	February, 1922.	February, 1921.
United States coastwise ports	387,649	117,512	80,940	270,279	89,862	66,043
United States and South America	72,011	31,968	88,942	111,812	40,011	55,590
Europe and South America	100,519	39,657	39,660	66,164	46,101	88,139
United States and Far East	63,713	87,553	66,958	15,650	17,190	20,893
Europe and United States	60,465	21,827	11,022	44,799	41,867	62,475
Europe and Canada	7,551	11,076	.....	45,147	33,689	.....
Europe and Australasia	42,558	63,962	24,850	32,931	32,664	24,710
United States and Australasia	38,224	22,048	25,631	4,561	6,216	9,906
Mexico and South America	9,827	20,573	27,598	4,885	10,354	34,770
Cristobal and South America	9,599	15,278	12,704	8,494	14,312	13,477
United States and Canada	10,494	9,246	.....	33,487	19,621	6,088
Miscellaneous	37,766	47,305	56,928	50,962	46,643	99,514
Totals	840,376	488,005	435,233	689,171	398,530	481,605
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	238,622	95,548	67,302	423,958	84,330	68,345
United States and South America	26,230	23,921	105,339	180,746	48,333	62,259
Europe and South America	31,052	24,366	22,552	95,590	57,139	112,397
United States and Far East	83,651	133,506	93,193	16,289	19,959	24,098
Europe and United States	56,856	6,700	2,400	68,155	61,122	93,417
Europe and Canada	2,916	9,453	.....	66,336	49,181	.....
Europe and Australasia	32,649	30,294	17,342	35,336	28,081	23,771
United States and Australasia	48,124	25,535	39,406	1,735	9,200	3,122
Mexico and South America	19,196	27,037	46,128	.....	.....	230
Cristobal and South America	2,391	3,645	3,249	2,017	4,723	4,308
United States and Canada	17,392	13,050	.....	45,642	16,529	.....
Miscellaneous	4,360	49,770	77,961	64,035	16,652	86,085
Totals	563,439	442,825	474,872	999,839	395,249	478,032

LATIN-AMERICAN TRAFFIC.

The tonnage, tolls, and cargo routed to and from Latin-America through the Canal during the month of February, 1923, are shown in the following tabulations classified by nationality of vessels, and segregating the northbound and southbound cargo:

Nationality.	No. of ships.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	18	55,994	67,020	89,852	55,214	$63,467.31	43,416
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	790
Dutch	10	6,782	47,750	57,920	36,238	36,129.28	11,122
Danish	1	2,490	4,490	4,076	2,506	3,232.80	.....
German	4	12,276	16,660	20,126	12,438	15,345.00	10,589
Italian	1	3,303	4,013	5,493	3,241	4,128.75	800
Colombian	2	668	670	1,728	1,228	652.50	1
Japanese	1	4,348	4,700	5,873	4,254	5,435.00	4,500
Norwegian	2	6,821	9,586	11,028	7,520	6,901.92	.....
Panaman	1	31	50	171	31	36.00	.....
Peruvian	3	4,534	7,488	11,153	5,818	5,667.50	1,102
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
Swedish	1	3,338	5,014	539	4,048	3,610.08	.....
United States	13	37,437	45,687	63,724	38,154	37,373.00	10,909
Totals, February, 1923	69	141,729	218,620	279,292	175,746	185,906.09	83,229
Totals, February, 1922	46	105,066	130,801	173,971	107,759	126,473.90	107,459
Totals, February, 1921	67	180,148	217,954	282,755	179,204	221,102.65	252,149
Pacific to Atlantic.							
British	20	64,874	78,303	102,513	63,155	$78,410.85	113,448
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	514
Colombian	2	668	670	1,230	746	804.00	1,007
Danish	1	2,552	2,581	3,297	2,121	3,097.20	4,908
Dutch	4	13,350	16,964	21,335	13,483	16,687.50	26,488
French	1	3,631	4,166	5,818	3,712	4,538.75	5,780
German	3	5,157	7,252	8,556	5,198	6,441.78	6,675
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,195
Italian	2	6,049	7,748	10,137	6,125	7,561.25	6,030
Norwegian	6	21,261	25,911	31,872	20,566	26,371.55	48,554
Panaman	3	131	169	474	386	129.25	213

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Peruvian	2	3,264	4,768	7,690	4,141	$4,080.00	3,827
Spanish	2	3,762	4,817	6,068	3,773	4,702.50	9,239
United States	17	61,587	74,856	96,630	60,887	76,841.95	105,439
Totals, February, 1923	66	192,511	237,590	307,323	191,428	237,447.84	340,317
Totals, February, 1922	48	121,170	148,947	198,863	123,792	136,845.45	117,747
Totals, February, 1921	80	228,106	275,552	360,913	224,345	256,138.79	243,900

TRAFFIC BY NATIONALITY.

Approximately three-fifths of the total traffic through the Canal during February, 1923, was tonnage under the American flag, as will be seen by the following statement:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
United States	179	908,673	$841,961.10	959,293
All other	147	620,874	581,993.11	604,985
Totals	326	1,529,547	1,423,954.21	1,563,278

A statement of all commercial traffic passing through the Canal during the month, classified according to nationality of the various vessels, is shown in the following tabulation, segregating the eastbound and westbound traffic, and then showing the combined traffic in both directions:

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific traffic.							
British	41	167,116	205,606	262,937	163,899	$191,883.94	160,423
Chilean	1	1,811	3,182	3,798	2,272	2,263.75	790
Colombian	2	668	670	728	1,228	652.50	1
Danish	1	2,490	4,490	4,076	2,506	3,232.80	.....
Dutch	11	42,558	55,301	67,319	42,052	43,349.28	14,038
German	5	15,251	21,548	25,077	15,390	19,063.75	18,089
Italian	1	3,303	4,013	5,493	3,241	4,128.75	800
Japanese	6	21,089	25,385	32,762	21,117	26,361.25	30,107
Norwegian	3	9,824	13,472	15,922	10,574	10,655.67	5,100
Panaman	1	31	50	171	31	36.00	.....
Peruvian	3	4,534	7,488	11,153	5,818	5,667.50	1,102
Spanish	1	1,896	2,310	3,811	2,784	1,663.20	.....
Swedish	2	6,744	10,675	11,033	8,368	7,867.58	7,154
United States	97	403,140	486,186	625,610	401,357	416,296.40	325,835
Totals, February, 1923	175	680,455	840,376	1,070,890	680,637	733,122.37	563,439
Totals, February, 1922	114	394,817	488,005	605,323	384,957	482,933.41	442,825
Totals, February, 1921	114	362,427	435,233	556,798	354,964	449,616.59	474,872
Pacific to Atlantic traffic.							
British	36	134,197	163,850	210,067	131,704	$165,064.60	215,856
Chilean	2	3,086	5,338	6,527	3,905	3,857.50	514
Colombian	2	668	670	1,230	746	804.00	1,007
Danish	1	2,552	2,581	3,297	2,121	3,097.20	4,908
Dutch	4	13,350	16,964	21,335	13,483	16,687.50	26,488
French	2	6,855	9,020	11,194	6,910	8,568.75	13,675
German	3	5,157	7,252	8,556	5,198	6,441.79	6,675
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,195
Italian	2	6,049	7,748	10,173	6,125	7,561.25	6,030
Japanese	3	11,235	12,949	16,524	10,823	13,877.50	21,200
Norwegian	6	21,261	26,511	31,932	20,566	26,371.55	48,554
Panaman	3	131	169	474	386	129.25	213
Peruvian	2	3,264	4,768	7,690	4,141	4,080.00	3,827
Spanish	2	3,762	4,817	6,068	3,773	4,702.50	9,239
United States	82	342,645	422,487	532,561	337,981	425,664.70	633,458
Totals, February, 1923	151	557,351	689,171	872,804	551,092	690,831.84	999,839
Totals, February, 1922	98	315,731	398,530	499,713	315,169	383,332.77	395,249
Totals, February, 1921	127	401,498	481,605	623,181	397,058	467,796.20	478,032

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Total Canal traffic.							
British	77	301,313	369,456	473,004	295,603	$356,948.54	376,279
Chilean	3	4,897	8,520	10,325	6,177	6,121.25	1,304
Colombian	4	1,336	1,340	1,958	1,974	1,456.50	1,008
Danish	2	5,042	7,071	7,373	4,627	6,330.00	4,908
Dutch	15	55,908	72,265	88,654	55,535	60,036.78	40,526
French	2	6,855	9,020	11,194	6,910	8,568.75	13,675
German	8	20,408	28,800	33,633	20,588	25,505.54	24,764
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,195
Italian	3	9,352	11,761	15,666	9,366	11,690.00	6,830
Japanese	9	32,324	38,334	49,286	31,940	40,238.75	51,307
Norwegian	9	31,085	39,983	47,854	31,140	37,027.22	53,654
Panaman	4	162	219	645	417	165.25	213
Peruvian	5	7,798	12,256	18,843	9,959	9,747.50	4,929
Spanish	3	5,658	7,127	9,879	6,557	6,365.70	9,239
Swedish	2	6,744	10,675	11,033	8,368	7,867.58	7,154
United States	179	745,785	908,673	1,159,171	739,338	841,961.10	959,293
Totals, February, 1923	326	1,237,806	1,529,547	1,943,694	1,231,729	1,423,954.21	1,563,278
Totals, February, 1922	212	710,548	886,535	1,105,036	700,126	866,266.18	838,074
Totals, February, 1921	241	763,925	916,838	1,179,979	752,022	917,412.79	952,904

VESSELS WITHOUT CARGO.

The number of cargo ships transiting the Canal in ballast is shown in the following statement:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
British	5	25,938	$18,840.18	1	4,885	$3,517.20
United States	33	219,438	159,751.08	.....	.....	.....
General cargo ships:						
British	5	23,694	17,983.91	.....	.....	.....
Colombian	1	335	250.50	.....	.....	.....
Danish	1	4,490	3,232.80	.....	.....	.....
Dutch	6	31,734	23,039.28	.....	.....	.....
German	.....	.....	.....	1	2,532	1,823.04
Norwegian	2	9,586	6,901.92	.....	.....	.....
Panaman	1	50	36.00	1	69	51.75
Peruvian	1	2,697	2,926.25	.....	.....	.....
Spanish	1	2,310	1,663.20	.....	.....	.....
Swedish	1	5,014	3,610.08	.....	.....	.....
United States	3	10,140	7,372.62	.....	.....	.....
Totals	60	335,426	245,607.82	3	7,486	5,391.99

CLASSIFICATION OF VESSELS.

A further classification of the commercial traffic through the Canal during the month of February, 1923, by kind of vessels, is shown below:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Freight and passenger vessels:						
Laden	110	489,745	$470,765.80	116	492,269	$486,483.35
Ballast	22	90,050	67,016.56	2	2,601	1,874.79
Tank ships:						
Laden	3	15,065	16,643.75	31	189,169	198,515.50
Ballast	38	245,376	178,591.26	1	4,885	3,517.20
Non cargo-carrying vessels:						
Dredge	.....	.....	.....	1	247	441.00
Yachts	2	140	105.00	.....	.....	.....
Totals	175	840,376	733,122.37	151	689,171	690,831.84
Steamers	165	805,505	700,119.87	146	671,265	672,811.59
Motor ships	7	34,659	32,818.75	3	17,590	17,527.50
Motor schooners	1	72	78.75	1	69	51.75
Yachts	2	140	105.00	.....	.....	.....
Dredge	.....	.....	.....	1	247	441.00
Totals	175	840,376	733,122.37	151	689,171	690,831.84

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of February, 1923. If tolls had been assessed against these vessels at commercial rates, the amounts assessed would have been approximately as indicated. The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these launches, although paying tolls, are excluded from the statement of commercial traffic:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Displacement tonnage.	Tolls.	No. of ships.	Displacement tonnage.	Tolls.
U. S. Navy vessels:						
Battleships	7	167,142	$83,571.00	.....	.....	.....
Cruisers	3	15,850	7,925.00	1	3,200	$1,600.00
Destroyers	21	25,515	12,757.50	.....	.....	.....
Minelayers	3	6,182	3,091.00	.....	.....	.....
Minesweepers	9	8,550	4,275.00	.....	.....	.....
Submarines	27	15,437	7,718.50	.....	.....	.....
Tank ships	3	48,100	24,050.00	1	14,800	7,400.00
Tugs	3	2,724	1,362.00	3	2,510	1,255.00
Submarine tenders	3	20,625	10,312.50	.....	.....	.....
Aircraft tender	1	11,000	5,500.00	.....	.....	.....
Destroyer tender	1	11,750	5,875.00	.....	.....	.....
Repair ship	1	12,585	6,292.50	.....	.....	.....
Hospital ship	1	9,800	4,900.00	.....	.....	.....
Supply ship	1	17,000	8,500.00	.....	.....	.....
Collier	1	19,080	9,540.00	.....	.....	.....
Oil barge	1	1,035	517.50	.....	.....	.....
Ammunition ship	.....	.....	.....	1	11,600	5,800.00
U. S. Army vessels:						
Transport	1	[1] 5,153	6,441.25	1	[1] 3,919	4,898.75
Total Government vessels	87	.....	202,628.75	7	.....	20,953.75
Transiting Canal for repairs	1	[2] 4,222	4,391.25	.....	.....	.....
Launches	3	[2] 17	17.55	1	[2] 1	.75
Total, all vessels	91	.....	207,037.55	8	.....	20,954.50

[1] Registered net tonnage. [2] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried the following amount of cargo:

	Tons.
Vessels transiting from Atlantic to Pacific	40,804
Vessels transiting from Pacific to Atlantic	1,098

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of February, 1923, are shown in the following tabulation:

	Cristobal.	Balboa.	Totals.
Local cargo arriving ... tons	30,384	65,228	95,612
Local cargo shipped ... tons	1,733	533	2,266
Transit cargo arriving ... tons	1,594,208	1,607,751	3,201,959
Transit cargo clearing ... tons	1,605,267	1,607,751	3,213,018
Cargo received for transshipment ... tons	17,401	555	17,956
Cargo transshipped ... tons	19,353	48	19,401
Vessels supplied with bunker coal:			
Army vessels	2	.....	2
Commercial, other than Panama Railroad	52	5	57
Panama Railroad vessels	2	.....	2
Total vessels supplied with coal	56	5	61
Coal supplied to above vessels:			
Army vessels ... tons	645	.....	645
Commercial, other than Panama Railroad ... tons	11,098	115	11,213
Panama Railroad vessels ... tons	713	.....	713
Total coal supplied to vessels ... tons	12,456	115	12,571
Coal issues, miscellaneous:			
Panama Canal departments ... tons	253	2	255
U. S. Army, excepting vessels ... tons	198	.....	198
Individuals and companies ... tons	210	.....	210

	Cristobal.	Balboa.	Totals.
Total issues from Panama Canal deposits:			
February, 1923 ... tons..	13,117	117	13,234
February, 1922 ... tons..	22,183	1,545	23,728
February, 1921 ... tons..	31,391	2,539	33,930
Coal on hand, March 1, 1923 ... tons..	69,494	2,982	72,476
Coal on hand, February, 1, 1923 ... tons..	82,611	3,099	85,710
Fuel oil issues from Panama Canal tanks:			
Panama Canal departments ... bbls..	5,085	19,670	24,755
Panama Railroad Co. ... bbls..	150	.....	150
Army and Navy ... bbls..	204	89	293
Total issues and sales ... bbls..	5,439	19,759	25,198
Fuel oil on hand, March 1, 1923 ... bbls..	31,921	25,344	57,265
Fuel oil on hand, February 1, 1923 ... bbls..	37,360	45,103	82,463
Diesel oil sold during February, 1923 ... bbls..	1,125	.....	1,125
Diesel oil on hand, March 1, 1923 ... bbls..	43,574	843	44,417
Oil pumped for individuals and companies ... bbls..	346,031	661,350	1,007,381
Miscellaneous transfers ... bbls..	3,939	1,867	5,806
Total oil handled by plants during month ... bbls..	358,204	682,976	1,041,180
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	38	7	45
Measured for Panama Canal net tonnage	7	1	8
Remeasured for Panama Canal net tonnage	25	3	28
Panama Canal net tonnage corrected	18	17	35
U. S. equivalent net tonnage corrected	30	13	43
Services of harbor equipment:			
Tugs, total operating hours	365	318	683
Launches, total operating hours	1,302	1,776	3,070
Scows, total operating hours	.....	167	167
Revenues from tug service, pilotage, etc:			
Tug service	$10,647.50	$7,686.25	$18,333.75
Launch service	1,469.50	2,250.00	3,719.50
Pilotage	11,887.00	6,640.00	18,527.00
Seamen	5,940.00	5,024.00	10,964.00
Wharfage	.....	3,858.84	3,858.84
Ships measured	325.00	10.00	335.00
Miscellaneous cash collections	1,509.20	1,477.00	2,986.20
Vessels repaired at Panama Canal shops:			
Commercial	32	15	47
U. S. Army and Navy	1	4	5
Canal equipment	8	12	20
Vessels dry-docked:			
Commercial	3	1	4
U. S. Army and Navy	.....	1	1
Canal equipment	1	2	3
Clearances issued	185	187	372
Bills of health issued	182	187	369

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of February, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	463	2,596,724	1,743,007	493	2,868,948	2,082,784
Vessels entering port but not transiting the Canal	43	228,215	137,637	78	489,069	460,568
Vessels transiting Canal and handling passengers or cargo	51	279,298	170,236	43	191,913	118,617
Ships clearing.						
All vessels, including those transiting the Canal	466	2,608,453	1,753,720	437	2,075,630	1,323,893
Vessels entering the port but not transiting the Canal	41	218,788	128,401	12	75,254	51,417
Vessels transiting Canal and handling passengers or cargo	55	292,449	177,866	43	191,913	118,617

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of February, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,257	1,256	2,513	7	1	8
From Pacific ports	109	68	177	122	39	161
Total disembarking	1,366	1,324	2,690	129	40	169
Embarking:						
For Atlantic ports	805	590	1,395	5	6	11
For Pacific ports	208	50	258	86	20	106
Total embarking	1,013	640	1,653	91	26	117
Remaining on board vessels:						
From Atlantic to Pacific ports	883	2,353	3,236	603	752	1,355
From Pacific to Atlantic ports	319	387	706	604	1,085	1,689
From Atlantic to Atlantic ports	1,531	52	1,583	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	20	123	143
Total remaining on board	2,733	2,792	5,525	1,227	1,960	3,187
Total passengers arriving	4,099	4,116	8,215	1,356	2,000	3,356
Total passengers departing	3,746	3,432	7,178	1,318	1,986	3,304

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of February, 1923:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$145.44	$1,457.98	$34.61	$174.26	.....	$1,812.29
Panama Railroad vessels	18.90	2,199.99	98.55	423.60	.....	2,741.04
Other commercial vessels	790.08	14,193.88	3,665.44	1,194.99	.....	19,844.39
Total sales, February, 1923	954.42	17,851.85	3,798.60	1,792.85	.....	24,397.72
Total sales, February, 1922	1,442.92	18,417.18	2,717.49	1,319.90	.....	23,897.49
Total sales, February, 1921	2,794.41	44,316.50	8,461.11	4,659.88	5,133.60	65,365.50
Sales at Balboa to:						
U. S. Government vessels	1,087.74	29,867.71	5,417.88	1,844.99	.....	38,218.32
Other commercial vessels	622.71	4,002.26	966.89	2,186.98	1,737.94	9,516.78
Total sales, February, 1923	1,710.45	23,869.97	6,384.77	4,031.97	1,737.94	47,735.10
Total sales, February, 1922	360.85	12,233.83	3,148.27	1,041.83	.....	16,784.79
Total sales, February, 1921	2,981.76	94,814.40	14,994.75	21,053.93	2,562.82	136,407.66

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of February, 1923, as compared with the same month in 1922 and 1921:

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	Feb., 1923.	Feb., 1922.	Feb., 1921.
Number of lockages.									
Gatun	140	166	306	4	31	35	341	206	258
Pedro Miguel	144	166	310	15	53	68	378	224	325
Miraflores	146	168	314	12	47	59	373	198	308
Number of vessels put through locks.									
Gatun	152	179	331	9	96	105	436	255	371
Pedro Miguel	151	175	326	44	136	180	506	256	419
Miraflores	151	175	326	30	113	143	469	252	408

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
Army and Navy vessels	99	101	102
Canal equipment	6	79	41

The total consumption of water for lockages, maintenance and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,372,240,000	1,280,140,000	1,177,460,000
Leakage	25,000,000	11,100,000	20,000,000
Total consumption, February, 1923	1,397,240,000	1,291,240,000	1,197,460,000
Total consumption, February, 1922	854,610,000	822,000,000	722,960,000
Total consumption, February, 1921	1,030,310,000	994,570,000	965,240,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulations the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of February, 1923, are shown in comparative form:

Rainfall.	February, 1923.	February, 1922.	February–Years of record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific section	T	1.33	2.51	T	.73
Central section	.15	.91	4.28	.15	1.27
Atlantic section	.96	1.66	13.29	.73	2.51
Maximum recorded on any one day	.38	1.66	[1] 10.86	.....	.....
Gatun Lake watershed	.57	1.08	6.09	.37	1.76
Chagres River watershed above Alhajuela	1.10	1.48	5.92	.24	1.66
Maximum recorded for month at any one point	2.47	3.36	24.94	.....	.....
Minimum recorded for month at any one point	.00	.00	.....	.00	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	1,268	1,399	3,315	516	1,260
Maximum momentary discharge for month	3,155	2,780	[2] 170,000	.....	.....
Gatun Lake watershed total yield	1,646	2,454	5,077	705	1,953
Gatun Lake watershed net yield	698	1,482	4,207	−283	1,156
Draft on Gatun Lake for lockage and power	2,386	2,058	2,386	[3] 1,106	[3] 1,862

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28–29, 1909. [2] This figure represents the maximum momentary discharge on record, occurred December 26, 1909. [3] Not including 1914.

SEISMOLOGY.

Seismic disturbances were recorded on the 3d, 9th, and 27th of the month. The disturbance on the 3d was of some distant origin and those of the 9th and 27th had a rather closer origin.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	February, 1923.	January, 1923.	February, 1922.
Gross output KWH:			
Gatun hydroelectric station	4,240,300	4,784,500	4,241,600
Miraflores steam plant	40	.....	10,600
Power distributed to consumers ..... KWH	3,635,573	4,119,223	3,631,222
Loss of power in plant auxiliaries, transmission and transformation ..... KWH	604,767	665,277	620,978
Per cent of loss of power to gross output	14.26	13.90	14.60
Water consumption ..... cubic feet	3,119,594,413	3,622,991,356	3,339,809,600
Oil consumption ..... barrels	1,293	1,487	1,810

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 41 vessels at Cristobal and 31 vessels at Balboa. Of these, 4 were placed in dry dock at Cristobal, and 4 at Balboa. The more important items of repair work performed during the month include the following: Work was begun on the general overhaul of the steamship *Colon* of the Panama Railroad Steamship Line. The work is expected to last 6 months, and will be of about the same scope as the overhaul of the *Panama* in 1921, consisting, in the main, of installing new boilers, renewing the cold storage rooms, giving the machinery a thorough overhaul, renewing all worn out or doubtful steel in the ship's structure and renovating the passenger spaces.

The torpedo boat destroyer *Farquahar*, damaged in collision, was placed in dry dock for hull repairs. On the steamship *Cristobal*, cleaned, scraped and painted holds, water tanks; repaired hatch coamings, strongbacks, and hatch fittings; renewed rivets in main deck, etc.

An unusually heavy run of repairs in the boiler shop upon dredging equipment was experienced during the month and the machine shop was largely occupied with work sent in from the locks incident to overhaul. With the ending of the dry season it is expected that the volume of such work will be much less and that the men now at the locks on locks' overhaul will be returned to the shops. Having the *Colon* to overhaul will enable this force to be retained until again required on strictly Canal work. In general the work on the *Colon* will be handled by the existing force without hiring additional men, except in a few special trades.

The output of the foundry in patterns and castings during the month of February, 1923, as compared with the preceding month, was as follows:

	January, 1923.			February, 1923.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	13	204	34,945	8	167	19,392
Steel	2	347	21,269	1	197	7,510
Nonferrous	4	285	5,171	9	2,393	4,272

The following is a statement of all job and blanket orders issued and completed during February, 1923:

	Uncompleted February 1.	Authorized in February.	Completed in February.	Uncompleted February 28.
Job orders	428	580	578	430
Blanket orders	348	2	4	346

MUNICIPAL ENGINEERING.

The total amount of all pumping stations and of the three filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form:

	February, 1923.	January, 1923.	February, 1922.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	685,942,250	738,501,500	609,793,750
Filtration plants	393,798,000	427,685,000	358,774,000
Water consumed by Panama City	89,097,000	91,982,000	75,265,000
Water consumed by Colon	58,133,500	64,649,750	53,526,000
Sales of water to vessels	9,506,962	9,368,692	9,597,295

DREDGING.

Both East and West Culebra slides showed slight movements during the month. The dredge *Paraiso* was engaged all the month in front of these slides, removing 22,950 cubic yards from the west side of the channel and 20,850 cubic yards from the east side of the channel, and 140,000 cubic yards from the basin in front of East Culebra slide. At the close of the month a total of 182,400 cubic yards of material had been removed from the prism, and a grand total of 529,150 cubic yards from basin and prism as a consequence of the slide which occurred at East Culebra on December 21, 1922.

Suction dredge *No. 86* removed 11,600 cubic yards of earth from the west side of the Canal channel in Miraflores Lake, just south of Pedro Miguel locks, which was utilized in filling an old gap in the dike extending from the south end of Pedro

Miguel locks to the hills on the west, thus closing the old outlet of the Rio Grande that entered Miraflores Lake at that point. A new concrete spillway was constructed and placed in operation during the month, which will provide an outlet for the drainage water of the Rio Grande valley and waste water from hydraulic dredge work. The purpose of this structure is two-fold: First, to retain all solid material discharged by pipeline dredges into the Rio Grande valley behind the spillway, thus preventing rehandling from the channel in Miraflores Lake; second, to prevent inaccessible mosquito breeding places from developing as a consequence of shallowing by escaped dredge material in Miraflores Lake and reclaiming the already inaccessible sanitary areas behind the spillway in the Rio Grande valley which were partially brought about as a consequence of previous dredging operations.

The total excavation during February was 402,190 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Station.	Equipment.
	Earth.	Rock.			
59,350	2,950	56,400	Maintenance	La Pita Improvement project	*Gamboa.*
22,950	8,200	14,750	Maintenance	West Culebra slide	*Paraiso.*
160,850	59,750	101,100	Maintenance	East Culebra slide	*Paraiso.*
147,000	147,000	.....	Maintenance	Pacific entrance	*No. 86.*
11,600	11,600	.....	Maintenance	Miraflores Lake	*No. 86.*
440	440	.....	Auxiliary	Dredging sand at Chame	*La Valley.*
402,190	229,940	172,250			

VITAL STATISTICS.

A total of 126 deaths occurred during the month of February, 1923, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to an annual death rate of 12.39 per thousand. The leading causes of death were tuberculosis 24, organic diseases of the heart 17, nephritis (acute and chronic) 14, pneumonia (broncho and lobar) 12, diarrhea and enteritis 11.

Of the total deaths, 41, or 33 per cent occurred among children under 5 years of age. There were 19 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 241 live births reported during the month, and 18 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 25.48 per 1,000 poulation. Deaths among children under 1 year of age numbered 29, giving an infant mortality rate of 120.33 per 1,000 live births.

The total number of malaria cases reported during the month was 171. Of these, 11 cases were reported from Panama City, 132 from the Canal Zone, and 28 originated outside of our sanitated area. Of these cases 27 were employees, 79 nonemployees, and 65 were Army and Navy. There were 4 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

	As of February 28, 1923.			Comparative totals.		
	Men.	Women.	Children.	February, 1923.	February, 1922.	February, 1921.
Americans	2,410	1,905	1,989	6,304	6,529	8,511
Europeans	83	26	70	179	229	281
West Indians	4,133	2,709	5,960	12,802	12,128	11,695
Totals, February, 1923	6,626	4,640	8,019	19,285	.....	.....
Totals, February ,1922	6,625	4,406	7,855	.....	18,886	.....
Totals, February, 1921	8,593	4,565	7,329	.....	.....	20,487

The following tabulation shows the number of gold and silver employees as of February 21, 1923, with a comparison of the working force on January 17, 1923, and February 15, 1922:

	As of February 21, 1923.		Total employees.		
	Gold.	Silver.	February, 1923.	January, 1923.	February, 1922.
Operation and Maintenance:					
Office	28	47	75	61	84
Electrical	143	202	345	303	302
Municipal Engineering	72	496	568	609	621
Lock Operation	180	602	782	803	858
Dredging	135	777	912	926	749
Mechanical	325	582	907	870	913
Marine	159	420	579	573	525
Fortifications	16	132	148	162	301
Totals	1,058	3,258	4,316	4,307	4,353
Supply Department:					
Transportation	34	155	189	174	177
Quartermaster	131	894	1,025	1,027	926
Subsistence	7	108	115	97	224
Commissary	162	866	1,028	939	957
Cattle Industry—Plantations	6	335	341	285	304
Hotel Washington	8	91	99	95	93
Totals	348	2,449	2,797	2,617	2,681
Accounting Department	183	8	191	186	184
Health Department	219	700	919	932	954
Executive Department	468	254	722	723	737
Totals	870	962	1,832	1,841	1,875
Panama Railroad Company:					
Superintendent	47	218	265	284	299
Transportation	64	106	170	165	177
Receiving and Forwarding Agent	65	619	684	721	852
Coaling Stations	79	688	767	519	558
Totals	255	1,631	1,886	1,689	1,886
Grand totals, February, 1923	2,531	8,300	10,831	.....	.....
Grand totals, January, 1923	2,520	7,934	.....	10,454	.....
Grand totals, February, 1922	2,640	8,155	.....	.....	10,795

RECEIPTS AND SALES OF MATERIAL AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month of February, 1923, as compared with the preceding month and the corresponding month a year ago, was as follows:

	February, 1923.	January, 1923.	February, 1922.
Material received on U. S. requisitions:			
For Department of Operation and Maintenance	$124,361.51	$201,602.60	$113,754.54
For other Canal departments	4,189.72	1,675.12	820.74
Totals	128,551.23	203,277.72	114,575.28
Cash sales on Isthmus:			
Stock	21,973.48	24,399.29	28,924.32
Fuel oil	394.14	90.93	106.56
Scrap	1,600.25	2,302.59	685.83
Obsolete and second-hand material	11,938.10	1,015.74	1,809.72
Totals	35,905.97	27,808.55	31,526.43

Respectfully,

JAY J. MORROW,
Governor.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal, or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Reduction in Price of Diesel Oil.

The price of Diesel oil sold by The Panama Canal at Cristobal has been reduced to $2.75 per barrel, as published in Supplement No. 10 to the current tariff, effective March 15. The Canal has also a supply of 800 barrels at Balboa, on which the price is the same. The Canal stock at Cristobal is 46,000 barrels.

Private companies are selling Diesel oil at Balboa at $2.35 a barrel.

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the three weeks ended March 24:

Steamships *Cerro Ebano*, remove intermediate and thrust shaft; draw broken tail shaft; fit spare propeller hub to spare tail shaft, and install on ship; renew hull zincs where damaged; caulk leaky rivets in after peak tank; dock and undock; *Point Lobos*, manufacture 4 rings, overhaul governor, renew valve and stem, and repair water service pipes in ice machines; minor repairs to feed pump and main circulating line; *Mina Brea*, dock and undock; scrape and clean bottom, paint underwater body 1 coat of anticorrosive and 1 coat of antifouling; top side, 1 coat of black; repack stern gland; overhaul steering gear; repair circulating and service pumps; miscellaneous repairs to main engines; sanitary and cargo piping; boiler mountings and tubing; sea valves; anchor chains and fore peak tanks; *Benjamin Brewster*, remove and remetal H. P. crosshead slipper, true up and fit H. P. crosshead brasses; renew stud in beam pump lever on main engine; overhaul thrusts, renew bad order holding down bolts in foundation and sole plates; repack stern gland, examine stern bearings; repair steering gear; repair feed and fuel oil pumps; repair cargo fuel oil piping; blow out refrigerating system and renew defective piping for ammonia receiver; open up boilers, caulk leaky tubes and staytubes, seams, and rivets, and electric weld leaking seams; test fuel oil cargo tanks; renew defective hull zincs; repair sea valves and miscellaneous small repairs in pantry and deck houses; clean, and paint with 1 coat of antifouling and 2 coats of anticorrosive; furnish compressed air for ship's use; steam for firing boilers; dock and undock; *Bradford*, bore cylinder for shuttle valve, renew valve, repair steam piston, renew rings on feed pump; open up, examine, readjust and reassemble auxiliary feed pumps; manufacture 1 valve lifting yoke and assemble on cofferdam line; manufacture stencils; yacht *Sonnica*, manufacture 1 bronze friction band; barge *No. 133*, renew bad order deck plates; test all tanks; straighten hopper braces and framing; renew bad order fenders; hopper sheathing, and line up winding machinery; install landing frame on deck for dippers.

PREVIOUSLY REPORTED.

Steamship *Colon*, dock and undock; paint; reboiler and perform general repairs to the ship's hull and equipment in all divisions of the ship.

The following vessels were at the Cristobal shops during the week ended March 24:

U. S. S. *Cuyama*, manufacture new crank shaft and 2 brass pump runner shafts; weld and bore pump runner to fit shaft and install; manufacture 2 brass bushings and rebabbit 2 bearings for circulating engine; remove niggerhead from shaft; cast and machine new gear and reinstall on shaft, etc.; tug *Bolivar*, bore H. P. cylinder, port engine and install full length liner in same; refit cylinder head to suit liner; manufacture new piston and rod complete; manufacture 2 extra piston rings for spares; renew follower bolts; reassemble H. P. end of engine; steamships *Balboa*, weld bitt and reinstall same; install guard on steam pipe; *Salvador*, bore H. P. cylinder, fit new bull ring, make new snap rings and true up piston; repair steering chain, fuel oil pump, mattresses, winch, anchor windlass, ice machine, water service for main engine, fore peak tank air pipe, accommodation ladder platform and frame, cargo gin and plumbing; manufacture 1 boat spar, 1 tarpaulin, 2 canvas boat covers, and 4 cargo slings, etc.; *Ucayali*, repair 1 snatch block and manufacture bronze bolt; *Edward L. Doheny, Jr.*, install new blade on propeller; steamships *Urubamba*, *Heredia*, U. S. S. *Neches*, launches *Mary Ellen* and *Buster Hull*, minor repairs.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 24, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Colombia	17	13.08	18	6.07	18	13.05	19	1.00	American	Pacific Mail Steamship Co	380.0	49.0	23.0	New York	San Francisco	General	3,227	6,015	4,281
Langley [1]	17	21.37	18	7.18	18	16.16			American	U. S. Navy	520.2	65.2	25.0	Pensacola	Balboa				
Iowan	18	6.47	18	8.00	18	17.00	18	18.06	American	American-Hawaiian Line	407.7	53.7	22.0	New York	Los Angeles	General mdse	5,289	7,091	5,002
Floridian	18	18.05	19	6.40	19	20.36	20	2.30	American	American-Hawaiian Line	415.0	53.7	28.5	New York	Puget Sound	General	9,000	7,273	5,105
Orcoma	18	9.13	19	7.25	19	21.24	20	0.30	British	Pacific Steam Navigation Co	511.6	62.0	27.4	Liverpool	Valparaiso	General	3,334	12,267	7,942
Isis [2]	18	22.50	19	8.43	19	22.10	20	0.54	German	Kosmos Line	376.0	51.0	19.0	Hamburg	Corral	General	3,200	5,788	4,027
Iolcos	19	12.23	19	12.45	19	23.06	20	0.05	Greek	Hellenic Transport Co	400.0	52.0	15.6	Pensacola	Mejillones	Ballast		5,771	4,047
Jason [3]	19	22.56	20	6.20	20	16.23			American	U. S. Navy	514.0	65.0	28.0	Norfolk	Balboa	Coal for fleet	11,500		
Foldenfjord	19	16.39	20	7.07	20	17.13	20	23.05	Norwegian	Norwegian-American Line	430.4	59.3	18.0	Christiania	Los Angeles	Ballast		7,780	5,520
Mina Brea	19	17.00	20	7.55	20	18.02			British	Imperial Oil Co	360.3	49.2	14.0	Halifax	Talara	Ballast		4,437	2,717
Batoe	19	17.37	20	8.35	20	19.49	21	5.20	Dutch	Nederland Steamship Co	420.10	54.6	17.0	Amsterdam	Antofagasta	Ballast		7,002	4,944
Handicap [2]	17	7.53	20	9.20	20	20.59	21	2.54	Norwegian	Bruusgaard Kiosterud S. S. Co	415.3	54.7	24.8	Cardiff	Honolulu	Coke and coal	7,979	7,296	5,445
Invergoil	19	20.50	20	10.05	20	21.24	20	22.20	British	British-Mexican Petroleum Co	412.6	55.8	19.0	Southampton	Los Angeles	Ballast		7,099	2,863
Orcus	19	21.50	20	10.20	20	22.40	21	21.25	American	Wessel, Duval & Co. (S. B.)	380.2	53.1	14.0	New York	Talcahuano	General	580	5,667	4,227
Balboa	19	11.55	20	10.20	20	19.02	21	11.08	Colombia	Cia Costancia Colombiana	190.0	29.1	14.0	Pto. Colombia	Tumaco	Salt, general	490	737	335
H. M. Flagler	19	20.00	20	11.03	20	22.45	22	10.46	American	Standard Oil Co	461.6	60.0	25.0	New York	Balboa	Gasoline	4,630	8,450	6,089
Atlantic City	20	6.42	20	11.40	20	23.58	21	10.24	British	W. R. Smith & Sons	411.7	54.0	17.0	Port Talbot	San Francisco	Ballast		6,555	4,659
Lubeck	20	6.30	20	12.05	20	23.45	21	0.50	German	Kosmos Line	338.9	47.4	17.6	Hamburg	Puntarenas	General	638	4,429	2,753
Astronomer	20	7.18	20	12.35	21	0.52	21	2.07	British	Harrison Line	485.7	58.4	27.0	Glasgow	Seattle	General	9,400	8,898	6,334
Chattanooga City	20	9.40	20	13.00	21	1.37	21	3.00	American	U. S. Steel Products Co	424.2	56.2	26.0	Baltimore	Seattle	General	8,279	7,611	5,450
Barge No. 71			20	8.45	20		21	11.08	American	F. J. Marquez				Cristobal	Balboa	Ballast		166	152
Daisy [4]			20		20	11.53			American	E. Patten				Cristobal	Gatun	Ballast		1	1
Heathfield	20	13.20	21	6.35	21	15.40	21	16.45	British	Woodfield Shipping Co., Ltd	400.3	52.0	17.0	Providence	Portland	Ballast		5,804	4,045
Darien	19	23.00	21	6.20	21	14.57	22	7.40	Panaman	H. Obarrio	92.0	26.0	8.0	Cristobal	Buenaventura	Ballast		169	50
Republic	20	17.08	21	7.30	21	18.06	21	19.30	American	Chile Steamship Co	345.1	49.1	20.0	New York	Tocopilla	General and coke	2,420	4,393	3,006
Agwimex	21	3.25	21	7.45	21	18.55	22	0.39	American	Atl. Gulf & W. I. S. S. Co	480.0	65.9	21.0	Boston	Los Angeles	Ballast		9,394	6,325
China Arrow	21	6.30	21	9.25	21	19.47	21	21.05	American	Standard Transportation Co	468.0	62.7	20.0	New York	Los Angeles	Ballast		10,084	7,388
George Allen	21	13.27	21	13.35	21	21.06	22	3.30	American	Garland S. S. Co	385.3	51.2	20.0	New York	Seattle	General	1,304½	6,224	4,465
Amur Maru	21	13.45	22	6.25	22	13.15	22	14.20	Japanese	Osaka Shosen Kaisha	425.0	56.0	22.0	New York	San Francisco	General, cotton	2,718	7,901	5,629
Agwisea	21	13.52	22	7.13	22	14.55	22	19.55	American	Atl. Gulf & W. I. S. S. Co	468.3	62.7	21.6	New York	Los Angeles	Ballast		9,802	6,906
Eurana	21	19.37	22	8.05	22	15.35	22	16.50	American	New York Ship Building Co	419.5	56.5	21.0	Philadelphia	Los Angeles	Ballast		6,989	4,976
Agwistone	21	20.53	22	8.37	22	16.26	22	22.50	American	Atl. Gulf & W. I. S. S. Co	500.0	68.1	20.0	New York	Los Angeles	Ballast		10,609	7,733
S. C. T. Dodd	22	0.30	22	9.10	22	17.05	22	18.15	American	Standard Oil Co	425.0	57.2	18.0	Port Arthur	San Francisco	Ballast		7,481	4,975
Point Lobos	22	4.28	22	9.28	22	17.55	23	23.25	American	Pacific Mail Steamship Co	289.0	44.0	20.0	Mobile	San Francisco	General	3,215	2,895	1,967
Lake Sebago	22	6.30	22	9.55	22	18.55			American	Pacific Spruce Co	252.0	43.0	18.6	Mobile	Los Angeles	Iron pipe, iron	2,421½	2,291	1,531
Ucayali	15	22.45	22	10.57	22	18.54	22	20.05	Peruvian	Peruvian Line	374.0	46.3	18.5	Cristobal	Callao	General	293	4,466	2,405
Hugoton	22	10.25	22	11.00	22	19.35	22	20.44	American	Walker & Daly (S. B.)	434.8	56.0	18.0	Mobile	Los Angeles	Ballast		7,429	5,141

[1] Airplane tender. [2] Motor ship. [3] Collier. [4] Rowboat.

Canadian Freighter	22	10.55	22	11.10	22	20.25	23	14.30	British	Canadian Government	400.0	52.0	19.0	Matanzas	Vancouver	Sugar	3,000	6,224	4,487
Alvarado	21	11.50	22	12.31	22	21.20	23	0.20	British	Pacific Steam Navigation Co.	303.0	43.0	17.1	New York	Guayaquil	General	1,005	2,844	1,748
Oregon Maru	22	12.32	22	12.45	22	21.37	23	7.40	Japanese	Kawasaki Dockyard	385.0	51.0	13.0	New York	Coquimbo	Ballast		6,251	4,700
City of Brisbane	22	6.45	23	6.20	23	16.46	23	18.05	British	Ellerman-Hall Line	462.0	58.9	26.6	New York	Brisbane	General	8,249	9,392	7,039
Horace Luckenbach	22	14.05	23	7.22	23	17.30	23	18.20	American	Luckenbach Line	445.0	58.0	21.8	New York	Seattle	General	6,780	8,626	6,290
Cerro Azul	22	23.21	23	8.51	23	18.15	23	19.27	American	Pan-American Petroleum Co.	480.0	66.0	20.0	New York	Los Angeles	Ballast		9,398	6,453
City of Tokio	23	13.00	23	13.10	23	20.05	23	21.18	British	Hall Line, Ltd.	442.5	59.0	22.0	New York	Japan	General	5,658	9,085	6,933
Victolite	23	13.10	24	6.20	24	14.05	24	15.15	British	Imperial Oil Co.	503.0	68.0	22.7	Halifax	Los Angeles	Ballast		11,049	7,774
Lumina	23	15.19	24	7.20	24	14.59	24	16.25	British	Lumina Steamship Co., Ltd.	407.6	52.3	18.0	Cardiff	Los Angeles	Ballast		5,940	4,108
Cuyama [5]	16	15.40	24	8.01	24	15.55			American	U. S. Navy	455.0	56.0	25.5	Port Arthur	Balboa	([8])			
Agwihavre	23	23.50	24	8.45	24	18.39	25	0.39	American	Atl. Gulf & W. I. S. S. Co.	480.0	66.0	19.0	New York	Los Angeles	Ballast		9,394	6,305
Tiger	24	6.30	24	9.25	24	19.23	24	20.45	American	Standard Transportation Co.	410.0	56.0	28.0	Boston	Seattle	General	8,900	8,243	6,312
Edward L. Doheny, Jr.	23	11.15	24	9.58	24	20.05	24	21.00	American	Pan-American Petroleum Co.	467.6	62.7	21.4	Providence	Los Angeles	Ballast			
Theo. Roosevelt [2]	24	9.50	24	10.19	24	20.50	25	7.27	Norwegian	Fred Olsen & Co.	450.0	55.6	23.0	Christiania	Los Angeles	General	7,000	7,593	5,637
Noma [6]	19	8.30	24	11.13	24	21.50	24	23.02	American	Rodman Wanamaker	263.0	28.0	16.6	Habana	Galapagos Is.	Ballast		803	424
I. C. White	24	11.00	24	11.45	24	22.20	24	23.22	American	Pan-American Petroleum Co.	429.0	59.0	20.0	New York	Los Angeles	Ballast			
Bernice G [7]	19		24		24	12.59			American	O. E. McCoin	20.4	7.8		Cristobal	Gatun Lake	Ballast		2	2
William Rockefeller	24	11.40	24	12.50	24	23.15	25	0.18	American	Standard Oil Co.	555.0	75.0	23.0	Baltimore	Los Angeles	Ballast		14,785	10,313
William G. Warden	24	13.17	24	13.25	24	23.54	25	0.54	American	Standard Oil Co.	500.0	68.2	20.6	Charleston	Los Angeles	Ballast		10,524	7,600

[5] Tanker. [6] Yacht. [7] Launch.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

[8] 55,000 barrels of fuel oil.

President Harrison	17	18.15	18	6.50	18	14.13	18	16.13	American	Swayne & Hoyt	502.1	62.2	23.0	Seattle	Buenos Aires	General	1,825	12,031	8,495
Bushnell			19	7.06	19	13.35	24	13.00	American	U. S. Navy	328.2	45.7	16.6	Balboa	Coco Solo				
O-11 [9]			19	6.23	19	15.50			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-13 [9]			19	6.23	19	15.55			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
Toluma	18	14.05	19	7.40	19	18.20	19	19.35	Norwegian	Grace Line	417.5	54.0	29.6	Punta Arenas	New York	([11])	9,666	7,176	5,219
O-16 [9]			19	7.34	19	15.55			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-2 [9]			19	7.34	19	17.00			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
Santa Gerturdis	18	17.15	19	8.40	19	17.06	19	17.06	British	San Antonio Steamship Co.	238.6	37.0	13.6	Anacortes	Puerto Mexico	Box shooks	852	1,492	835
R-21 [9]			19	8.33	19	15.55			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
R-25 [9]			19	8.33	19	15.55			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
R-23 [9]			19	8.37	19	17.00			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
R-26 [9]			19	8.37	19	17.00			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
Potosi	18	21.40	19	9.26	19	18.55	19	20.40	British	Pacific Steam Navigation Co.	381.0	49.0	25.0	Caleta Colosa	Europe [12]	Nitrate of soda	6,042	5,559	4,201
Patuxent [10]	17	23.25	19	10.04	19	22.48			American	U. S. Navy	117.0	29.8	9.0	Cape Mala	Coco Solo				
Lewis Luckenbach	19	6.0	19	10.23	19	20.10	19	20.10	American	Luckenbach Line	496.0	62.2	27.0	Seattle	Boston	Lumber, general	9,502	11,487	8,762
R-27 [9]			19	10.05	19	18.50			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
R-24 [9]			19	10.05	19	18.50			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				

[9] Submarine. [10] Towing raft. [11] Nitrate, flax, wool. [12] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Santa Elisa	19	7.20	19	11.07	19	21.40	20	0.55	American	Grace Line	360.3	51.7	24.6	Talcahuano	New York	Copper, general	4,147	5,957	4,325
O-2 [13]			19	10.35	19	21.29			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-4 [13]			19	10.35	19	21.29			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-6 [13]			19	10.35	19	22.45			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-5 [13]			19	10.35	19	22.45			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
Salvador	19	4.00	19	11.53	19	21.43			British	Pacific Steam Navigation Co.	225.0	35.4	16.2	Corinto	Cristobal	(14)			
O-9 [13]			19	11.33	19	22.45			American	U. S. Navy	172.4	11.0	14.5	Balboa	Coco Solo				
O-8 [13]			19	11.33	19	22.45			American	U. S. Navy	172.4	11.0	14.5	Balboa	Coco Solo				
O-10 [13]			19	11.40	19	22.45			American	U. S. Navy	172.4	11.0	14.5	Balboa	Coco Solo				
Darien	18	11.55	19	12.35	19	23.00	21	6.20	American	H. Obarrio	92.0	26.0	7.0	Buenaventura	Cristobal	General, coffee	105	169	50
O-3 [13]			19	12.35	19	23.35			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-15 [13]			19	12.35	19	23.35			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
O-14 [13]			19	12.35	19	23.35			American	U. S. Navy	172.4	18.0	14.5	Balboa	Coco Solo				
Ruapehu	19	7.45	19	14.10	20	0.20	20	7.50	British	New Zealand Steamship Co.	457.3	58.2	23.2	Wellington	Liverpool	Cold storage	4,632	9,106	6,855
Canadian Challenger	19	8.02	19	14.48	20	0.55	20	6.28	British	Canadian Govt. Mer. Marine	400.0	52.2	16.8	Sydney	New York	Wool, skins	2,200	6,142	4,354
Savannah			20	7.00	20	17.12			American	U. S. Navy	400.0	46.1	26.5	Balboa	Coco Solo				
S-1 [13]			20	7.47	20	17.17			American	U. S. Navy	175.0	16.3		Balboa	Coco Solo				
R-22 [13]			20	7.47	20	17.17			American	U. S. Navy	186.1	18.0	14.5	Balboa	Coco Solo				
Palm Branch	19	16.00	20	7.47	10	18.10	20	21.00	British	F. and W. Ritson	360.0	45.0	24.11	Valparaiso	Antwerp	General	5,205	4,195	3,088
J. W. Van Dyke	19	18.30	20	8.39	20	18.65	20	18.55	American	Atlantic Refining Co.	435.0	56.0	28.9	Los Angeles	Philadelphia	Oil	10,000	7,460	5,215
Remuera	19	10.15	20	13.48	20	21.54	21	1.40	British	New Zealand Steamship Co.	486.0	62.3	25.0	Wellington	London	(16)	4,979	11,717	8,751
W. C. Teagle	20	20.00	21	7.08	21	15.35	21	15.35	American	Standard Oil Co.	499.1	68.2	29.0	Los Angeles	New York	Oil	14,971	10,991	7,904
Edward Luckenbach	20	23.00	21	8.15	21	16.25	21	16.25	American	Luckenbach Line	347.0	57.0	26.4	San Pedro	New York	Shingles, general	5,700	8,543	6,427
Santa Paula	20	23.55	21	8.46	21	17.05	21	17.05	American	Pacific Mail Steamship Co.	404.6	54.0	27.4	Seattle	Baltimore	Lumber, general	7,093	6,756	4,775
Lehigh	21	1.30	21	9.34	21	17.38	21	17.38	American	N. Atl. & Western S. S. Co.	390.0	54.2	25.0	Portland	Philadelphia	Lumber, general	6,428	6,144	4,276
Florence Luckenbach	21	5.10	21	10.43	21	19.52	21	19.52	American	Luckenbach Line	401.8	52.0	22.0	Seattle	New York	(17)	6,740	6,002	4,621
S. M. Spalding	21	6.25	21	11.43	21	21.11	21	21.11	American	Huasteco Petroleum Co.	435.0	56.0	28.7	Los Angeles	New York	Oil	10,278	7,331	5,080
Balboa [15]	21	16.80	22	7.10	22	16.30	23	11.58	Sweden	Johnson Line	426.9	56.3	27.5	San Francisco	Christiana	General	9,200	7,480	5,533
Yorba Linda	22	3.50	22	7.59	22	16.32	22	16.32	American	General Petroleum Corporation	436.0	56.2	28.4	Los Angeles	Boston	Oil	9,400	7,424	5,077
Camden			23	7.25	23	15.13			American	U. S. Navy	388.0	47.6	22.10	Balboa	Coco Solo				
S-19 [13]			23	7.35	23	15.20			American	U. S. Navy	231.0	31.0		Balboa	Coco Solo				
S-20 [13]			23	7.35	23	15.20			American	U. S. Navy	231.0	31.0		Balboa	Coco Solo				
Wright			23	7.41	23	16.38			American	U. S. Navy	488.0	58.0	25.10	Balboa	Coco Solo				

[13] Submarine. [14] Coffee, wood, hides, general. [15] Motorship. [16] Cold storage and general. [17] Lumber, shingles, and general.

Bobolink No. 20	....	....	23	7.53	23	16.40	23	19.05	American	U. S. Navy	187.0	35.4	....	Balboa	Coco Solo	....	....	....	....
Robin No. 30	....	....	23	8.00	23	16.40	23	19.05	American	U. S. Navy	187.0	35.4	....	Balboa	Coco Solo	....	....	....	....
William A. McKenney	22	15.25	23	8.47	23	17.45	23	18.50	American	Crowell & Thurlow	395.0	55.1	26.0	Everett	Baltimore	Lumber, general.	5,259	6,532	4,528
Quail No. 15	....	....	23	9.14	....	(18)	....	....	American	U. S. Navy	187.0	35.4	....	Balboa	Miraflores	....	....	....	....
Roland	22	22.30	23	9.25	23	18.25	23	19.19	German	Roland Line	360.6	51.0	23.8	Talcahuano	Hamburg	General	5,874	4,791	3,374
Hermes	23	4.00	23	10.40	23	19.50	24	17.15	Dutch	Royal Netherlands W. I. Mail	363.0	48.0	20.6	Valparaiso	Amsterdam	Nitrate, general.	3,745	4,182	3,059
Robin Goodfellow	22	22.01	23	11.31	23	20.28	23	20.28	American	Seas Shipping Co.	424.3	55.2	27.6	Honolulu	Boston	General	6,144	7,473	5,536
Cheyenne	23	15.00	24	6.49	24	15.20	24	22.35	British	Anglo-American Oil Co.	388.0	50.6	25.3	San Francisco	London	Oil	6,443	5,245	3,650
Teal No. 23 [19]	....	....	24	6.51	24	14.51	....	....	American	U. S. Navy	180.0	35.6	9.9	Balboa	Coco Solo	....	....	....	....
Vestal	....	....	24	7.47	24	17.15	24	17.30	American	U. S. Navy	450.0	60.0	21.7	Balboa	Coco Solo	....	....	....	....
Rail No. 26	....	....	24	7.56	24	17.24	24	17.30	American	U. S. Navy	180.6	35.7	....	Balboa	Coco Solo	....	....	....	....
Gothie Star	23	14.30	24	8.48	24	17.29	24	17.29	British	Blue Star Line	419.0	54.7	20.6	Seattle	Glasgow	(21)	4,282	7,521	5,852
Sandpiper No. 51	....	....	24	8.56	24	17.37	....	....	American	U. S. Navy	187.0	35.0	....	Balboa	Coco Solo	....	....	....	....
Conia	23	15.25	24	9.48	24	19.40	26	7.50	British	Shell Oil Co.	399.5	52.4	....	Los Angeles	Cristobal	Oil	7,760	6,037	4,148
Tulsagas	23	17.00	24	11.25	24	18.53	24	18.53	American	McAllister Brothers	431.0	59.2	25.0	San Pedro	Fall River	Oil	9,809	7,817	4,961
Dramatist	23	16.00	24	12.36	24	20.53	24	20.53	British	Harrison Line	410.1	52.3	26.0	Vancouver	Liverpool	(22)	6,900	6,202	4,154
Oriana	23	22.00	24	13.07	24	20.00	25	0.45	British	Pacific Steam Navigation Co.	465.7	56.0	28.3	Coronel	Liverpool	General	5,767	8,620	5,345
Urubamba	24	5.45	24	13.34	24	22.20	....	....	Peruvian	Peruvian Line	381.5	46.1	20.0	Iloilo, Peru	Cartagena	General	1,751	5,018	3,215
Ramapo [20]	....	....	24	14.40	24	23.08	25	10.05	American	U. S. Navy	461.6	60.0	27.0	Balboa	Cristobal	....	....	....	....
A. C. Bedford	24	12.00	24	14.59	25	0.58	25	0.58	American	Standard Oil Co.	500.0	68.0	30.6	Los Angeles	New York	Crude oil	15,714	10,861	7,816

[18] Went to Miraflores and returned South. [19] And barge. [20] Tanker. [21] Refrigerated fruit and general. [22] Barley and canned goods.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
March 18	Atenas	United Fruit Co.	New Orleans via wayports.
March 19	Eupatoria	Hamburg-American Line	Hamburg via wayports.
March 20	Heredia	United Fruit Co.	New Orleans via wayports.
March 21	Carrillo	United Fruit Co.	New York via Kingston.
March 23	Ulua	United Fruit Co.	New York via wayports.
March 24	San Benito	United Fruit Co.	Boston via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
March 18	Venezuela	Royal Netherlands W. I. Mail	Amsterdam via wayports.
March 18	Puerto Rico	French Line	St. Nazaire via wayports.
March 19	Cristobal	Panama Railroad Steamship Line	New York.
March 20	Atenas	United Fruit Co.	New Orleans via wayports.
March 20	Eupatoria	Hamburg-American Line	Port Limon.
March 22	Heredia	United Fruit Co.	New Orleans via wayports.
March 22	Carrillo	United Fruit Co.	Colombian ports.
March 24	San Benito	United Fruit Co.	Boston.
March 25	Ulua	United Fruit Co.	New York via wayports.

PORT OF BALBOA.

March 18	Sinaola	R. S. Silva Ag. Co.	San Francisco.	March 20	Sinaola	R. S. Silva Ag. Co.	Guayaquil.
March 21	Akera	Anglo-Saxon Petroleum Co.	San Pedro.	March 23	Rakuyo Maru	Toyo Kisen Kaisha	Valparaiso.
March 22	Rakuyo Maru	Toyo Kisen Kaisha	Hongkong.	March 24	Akera	Anglo-Saxon Petroleum Co.	San Pedro.
March 24	Lompoc	C. T. Bowring	Port San Luis.				

*Other than ships passing through the Canal.

Columbus Steamship Company Succeeds American Metal Transport Co.

Advice has been received from the Columbus Steamship Co., Inc., 2 Broadway, New York, that it has taken over the business of the American Metal Transport Co., Inc. The company operates a line of cargo vessels through the Canal from Atlantic ports of the United States to Peruvian and Chilean ports.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 17, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Santa Malta	Grace Line		March 11		14
Brielle	Royal Netherlands W. I. Mail		March 11		199½
Abangarez	United Fruit Co	March 11	March 12		449½
Camden	United Fruit Co	March 11	March 13	8,857	
Siam	East Asiatic Steamship Co	March 12	March 13	349	
P. de Satrustegui	Spanish Line	March 12	March 14	263	575½
Albaro	Italian Line		March 14		108
Mantaro	Peruvian Line		March 14		815
City of Para	Pacific Mail Steamship Line		March 15		1,067
Aysen	Chilean Line	March 12	March 16	349	1,566
Venezuela	Royal Netherlands W. I. Mail	March 13	March 13	25	10
Oranian	Leyland Line	March 13	March 14	531	203
La Paz	Pacific Steam Navigation Co	March 13	March 14	45	45
Kiel	Kosmos Line	March 14	March 14	208	
San Gil	United Fruit Co	March 14	March 14	13	242
Cauca	Pacific Steam Navigation Co	March 14	March 17	1,098	
Cristobal	Panama Railroad Steamship Line	March 14		2,331	
Venezuela	Pacific Mail Steamship Co	March 14	March 15	453	589
Santa Tecla	Grace Line	March 14	March 15	25	128
Cartago	United Fruit Co	March 14	March 15	1,100	
Abangarez	United Fruit Co	March 15	March 15		86
Metapan	United Fruit Co	March 15	March 15		¼
Sixaola	United Fruit Co	March 15	March 16	134	328
Gen. G. W. Goethals	Panama Railroad Steamship Line	March 15	March 16	122	
Ucayali	Peruvian Line	March 15		1,519	
Pastores	United Fruit Co	March 16	March 17	130	301
Haarlem	Royal Netherlands W. I. Mail	March 16	March 17	150	206
Venezuela	Royal Netherlands W. I. Mail	March 16	March 17	51	950
Colombia	Grace Line	March 17	March 18	208	188
Puerto Rico	French Line	March 17		154	
Bayano	United Fruit Co	March 17	March 17	5	

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 24, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo. Discharged	Cargo. Laded.
				Tons.	*Tons.*
Colombia	Pacific Mail Steamship Co	March 18	March 18	13	5
Darien	A. B. Obarrio & Co	March 18	March 19	6	
Sinaloa	R. A. Silver & Co	March 19	March 19	260	
Salvador	Pacific Steam Navigation Co	March 19	March 19	3	
U. S. S. Cuayama	U. S. Navy	March 19		7,857	
U. S. S. Jason	U. S. Navy	March 20		11,000	
U. S. S. Sciota	U. S. Navy	March 20			3
H. M. Flagler	Standard Oil Co. of New Jersey	March 20	March 21	4,100	
Balboa	Johnson Line	March 21	March 22		149
Akera	Anglo-Saxon Petroleum Co	March 21	March 24	6,893	
U. S. S. Rappahannock	U. S. Navy	March 21			11
Darien	A. B. Obarrio & Co	March 21	March 21		100
Rakuyo Maru	Toyo Kisen Kaisha	March 22	March 23	709	
Salvador	Pacific Steam Navigation Co	March 22	March 22		5
Lompoc	Union Oil Co. of California	March 24		9,500	
Theodore Roosevelt	Norway-Pacific Line	March 24	March 24	384	9

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective March 28, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.20
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.225
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.14
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity..... $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

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Panama Canal Efficiency.

THE PANAMA CANAL, EXECUTIVE OFFICE, March 29, 1923.

To our employees—The two successful passages just completed of the Scouting Fleet through the Canal, coming simultaneously with the recent remarkable increase in commercial shipping utilizing our waterway, presents fitting opportunity for me to express the great satisfaction and pride I feel in our organization and in the proven loyalty and efficiency of all divisions and departments of the Canal and railroad. I desire particularly to publicly recognize the fine work of the Marine Division and of the operating forces of the locks under the heavy work of the 3 months just closing, and the work of the Dredging Division as particularly marked by its operation in the presence of the heavy traffic and in the handling of the December slide. The big increase in the use of the Canal by shipping is plain evidence of appreciation of highly efficient service. Our organization is a success, and this success is due to the individual and collective efforts of all those employees who take a pride in their individual part in the work.

I have been in receipt of many compliments on the efficiency of our organization from those whom we have served, and it is a great pleasure, as well as a duty, to pass this commendation to the body of loyal men and women who collectively make up the organization in which our country takes just pride. I shall continue in the future, as in the past, to acclaim publicly such service, and on such occasions as this to express my appreciation thereof.

JAY J. MORROW,
Governor The Panama Canal, President Panama Railroad Company.

March Traffic Through Canal Highest in Any Month to Date.

All previous Canal traffic records were broken during the month of March when a total of 521 vessels of all kinds, exclusive of Canal equipment, transited the Canal. This exceeds by 96 the former record number of transits.

Ships transiting the Canal from Pacific to Atlantic exceeded by 13 those from Atlantic to Pacific, but tolls on Pacific-bound vessels were greater by $123,614.06, owing to the large number of Government vessels which were included in the transits to the Atlantic.

The detail of the month's traffic was as follows:

	Commercial vessels.	Launches.	United States Government vessels.	Totals.
Number of vessels:				
Northbound	176	1	90	267
Southbound	233	5	16	254
Total vessels	409	6	106	521
Revenue from tolls:				
Northbound vessels	$852,052.19	$6.75	Free	$852,058.94
Southbound vessels	975,666.25	8.13	Free	975,674.38
Total tolls	1,827,718.44	14.88	Free	1,827,733.32

The revenue from tolls exceeds by $322,432.89 the previous record month's revenue from this source. Taking the month's traffic and dividing by 31, it will be seen that an average of 16.8 vessels transited the Canal daily, and that the average daily revenue from tolls was $58,958.66.

The month just closed makes the ninth successive month in which the revenue from tolls has aggregated more than one million dollars, and with practically each month marking an upward tendency in volume of traffic over the preceding one. From July 1, 1922, to March 31, 1923, the total revenue from tolls has been $11,759,001.58. Although this period covers only 9 months of the current fiscal year, the revenue from tolls has already exceeded the amount received during any entire 12 month's period preceding July 1, 1922.

Record Day at the Pacific Locks.

A record number of commercial vessels passed through the Pacific locks on March 10, when 21 commercial vessels and a United States Navy mine sweeper transited the Canal. The aggregate net tonnage, Panama Canal measurement, of the 21 commercial vessels was 109,953 tons. The tolls on these ships amounted to $98,327.38. The aggregate cargo carried by the vessels was 111,970 tons.

Of the 22 vessels, 10 were northbound and 12 southbound.

Many Large Cargoes Through Canal During March.

Forty-two vessels, carrying 10,000 tons or more of cargo each, made the transit of the Panama Canal during the month of March. Of these, 40 were bound from the Pacific to the Atlantic and 2 from the Atlantic to the Pacific. Of the total, 33 were tankships, of which all but one were bound for the Atlantic. Of the eastbound tankships, 31 carried cargo from the California oil fields, and the remaining vessel carried a cargo of crude petroleum from Callao to New York.

The statement below shows the net tonnage, Panama Canal measurement, the tolls paid, and the tons of cargo carried by these 42 vessels, segregated by the several commodities which made up their cargo.

Character of cargo.	No. of ships.	Aggregate net tonnage.	Aggregate tolls.	Aggregate cargo.
Mineral oils	33	223,949	$241,329.50	429,583
Nitrate	4	69,636	29,986.25	49,092
Iron ore	3	19,696	22,332.80	59,000
General cargo	2	15,579	15,756.25	21,606
Totals	42	328,860	209,404.80	559,281
Average per vessel	.....	7,830	$7,366.78	13,316

Rewards for Recovery of Lost Torpedoes.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., March 31, 1923.

To all concerned—There is quoted hereunder a communication from the Commandant of the Fifteenth Naval District, dated March 28, 1923, in regard to torpedoes lost by the Naval Fleets during experimental practice:

"1. Fourteen torpedoes, fired during the practice held by the Fleet on March 19, have not been recovered.

"2. This practice was held at a point about 15 miles southeast of Bona Island.

"3. In accordance with Navy Regulations, a reward will be paid promptly for the recovery of any one of these torpedoes.

"4. It is requested that the above information be brought to the attention of fishermen and local craft in general."

JAY J. MORROW, *Governor.*

Measurement of Vessels Before Sending Them to The Panama Canal.

Inquiries are received from time to time from prospective users of the Panama Canal as to the procedure in obtaining tonnage certificates for their vessels, prior to sending them to the Canal.

In all of the leading countries officials have been authorized to measure vessels under the rules of measurement for the Panama Canal and to issue tonnage certificates. Such certificates, of course, are subject to check and correction when the vessel arrives at the Canal, but the checking of her certificate practically never delays the ship. If a vessel arrives at the Canal with no certificate she is liable to delay for a short time while being measured and certificated at the Canal. For making an original measurement of a vessel to determine her Panama Canal net tonnage and issuing a certificate thereof, The Panama Canal charges $50 for a vessel of over 300 tons gross, Panama Canal measurement.

For convenient reference there is published below a list of officials in various countries who are authorized to issue Panama Canal tonnage certificates. By reason of changes within the various governments the persons designated may change on occasion; but this list indicates the offices which have the authority, and ships' operators, in case of doubt, can communicate with the principal marine authority in their country and ascertain to whom to apply for the measurement of their vessels.

OFFICIALS AUTHORIZED TO ISSUE PANAMA CANAL TONNAGE CERTIFICATES.

Argentina. General Prefect of Ports.
Austria. k. k. Hafen-Und Seesanitats-Kapitanat, Trieste.
Australia:
- New South Wales. J. R. McManus, Sydney; F. C. Bragg, Sydney; S. F. Rush, Newcastle.
- Victoria. A. E. H. Roberts, Melbourne; J. Martin, Melbourne; M. J. Murphy, Melbourne.
- Queensland. A. E. Munyard, Brisbane; W. H. Huskins, Brisbane; H. T. Morley, Gladstone; R. M. Gostello, Townsville; F. L. McMah, Thursday Island.
- South Australia. W. Wadlow, Port Adelaide; W. R. Lightfoot, Port Adelaide.
- Western Australia. O. W. Hough, Fremantle.
- Tasmania. H. N. Hulme, Hobart; A. S. Innes, Launceston.

Belgium. Minister of Marine, Brussels; Minister of Finance, Brussels.
Brazil. Custom House employees or, in ports where there are no Custom Houses, officials whose duty it is to register vessels in those ports. Where there are no such officials, competent persons to be chosen by the Inspector of Customs or the Administrator of Revenues.
British Colonies and Protectorates:
- Barbados. Admeasurer of Shipping, Bridgetown.
- Bermuda. Measuring Surveyor of Ships, Hamilton.
- British Guiana. Harbor Master, Georgetown; A. G. Stirling, Ship and Engineer Surveyor to Lloyd's Register, Georgetown.
- British Honduras. Surveyor of Shipping.
- Ceylon. James Gray, Acting Factory Engineer, Public Works Department.
- East Africa Protectorate. Port Officer, Mombasa.
- Falkland Islands. Harbor Master, Stanley.
- Fiji. Registrar of Shipping, Suva.
- Gambia. Registrar of Shipping, Bathurst.
- Gold Coast. Comptroller of Customs.
- Grenada. Port Officer, St. George's.
- Hongkong. Government Marine Surveyor (Lloyd's Surveyor).
- Malta. Capt. G. Z. Mallin, First Class Officer, Revenue Guards, Customs Department.
- Mauritius. Capt. M. McDonald; Capt. E. W. Peck; Lieut.-Commander W. G. Oldershaw, R. N. R., Assistant Harbor Master.
- Nigeria. Harbor Master, Lagos; Senior Marine Officer at Forcados, Bonny (or Port Harcourt), and Calabar.
- St. Lucia. Treasurer.
- Seychelles. Collector of Customs.
- Straits Settlements. Surveyor General of Ships, Singapore; Surveyor of Ships, Penang.
- Trinidad. Collector of Customs.
- Turks and Caicos Islands. Registrar of Shipping.
- Zanzibar. Port Officer.

Canada:
- New Brunswick. Surveyor of Shipping, at Chatham, Dorchester, Moncton, Richibucto, Sackville, St. Andrews, and St. John.
- Novia Scotia. Surveyor of Shipping, at Amherst, Annapolis Royal, Arichat, Barrington Passage, Canso, Digby, Guysboro, Halifax, Liverpool, Lunenburg, Maitland, Parrsboro, Picton, Port Hawkesbury, Port Medway, Shelbourne, Sydney, Truro, Weymouth, Windsor, and Yarmouth.

(Continued on page 440.)

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 31, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Tainui	24	0.10	25	6.10	25	14.25	25	15.30	British	Shaw, Savill & Albion Co.	477.8	61.1	26.9	London	Wellington	General	5,880	10,631	7,606
Carolyn	24	10.50	25	7.15	25	15.22	25	17.25	American	A. H. Bull & Co.	313.0	46.0	20.0	Galveston	Dupont	Sulphur, powder.	4,550	3,649	2,566
San Francisco [1]	24	13.58	25	7.22	25	20.05	25	22.46	Swedish	Johnson Line	362.0	51.0	22.8	Antwerp	Seattle	General	4,819	5,298	4,019
Laurel Branch	25	6.47	25	8.38	25	18.25	25	19.35	British	F. and W. Ritson	360.0	46.0	19.0	London	Guayaquil	General	1,781	4,182	3,047
Hesperos	25	7.50	25	9.05	25	19.00	25	20.00	Norwegian	Bruusgaard Kiosterud	389.8	54.0	15.0	Norfolk	Iquique	Ballast		5,693	4,230
Atlanta City	25	7.27	25	12.45	25	20.40	25	21.55	American	U. S. Steel Products Co.	441.0	56.0	26.9	Baltimore	Yokohama	General	8,113	7,611	5,450
John Worthington	25	12.04	26	6.20	26	14.29	26	15.35	American	Standard Oil Co.	464.0	60.0	20.0	Hamburg	Los Angeles	Ballast		8,491	6,096
Wales Maru	25	22.30	26	7.40	26	15.08	26	21.55	Japanese	Kokusai Kisen Kaisha	405.0	53.0	16.0	New York	Antofagasta	Ballast		7,043	5,077
Annapolis [2]	22	22.37	26	7.42	4–1	15.16			American	U. S. Navy	203.0	40.0	13.6	Willemstad	Gatun	Ballast			
F. J. Luckenbach	26	3.37	26	8.03	26	16.13	26	17.18	American	Luckenbach Line	446.0	56.0	30.0	Galveston	Seattle	General	9,757	8,508	6,179
Frogner	26	6.25	26	8.55	26	19.51	27	1.45	Norwegian	Fearnley & Eger	407.1	53.8	26.0	Galveston	Yokohama	Phosphate	8,177	7,010	5,310
Huguenot	26	7.15	26	9.23	26	20.34	27	21.40	American	McAllister Brothers (S. B.)	434.8	56.2	21.0	New York	Los Angeles	Ballast		7,394	5,099
Panama Maru	26	9.55	26	10.40	26	21.22	26	22.32	Japanese	Osaka Shosen Kaisha	400.0	51.8	19.6	Buenos Aires	Kobe	General	1,412	6,099	4,289
Gen. O. H. Ernst	25	17.22	26	13.25	26	21.32	28	7.30	American	Panama Railroad Steamship Line	356.4	45.3	21.0	New York	Guayaquil	General	2,256	4,503	2,764
Coma	26	12.45	27	6.20	27	14.54	27	17.28	British	William Crosbie	353.0	47.6	26.5	New York	Brisbane	General	5,300	4,796	3,512
Dillwyn	26	16.55	27	7.20	27	15.32	27	16.35	American	Walker & Daly (S. B.)	435.0	56.0	16.0	New York	Los Angeles	Ballast		7,441	5,180
Moerdijk	25	21.52	27	8.06	27	18.01	27	16.35	Dutch	Holland-American Line	472.0	61.0	19.6	Hamburg	San Francisco	General	1,007	9,165	7,056
Ipswich	26	20.30	27	8.40	27	18.46	27	21.57	American	Shawmut Steamship Co.	400.7	54.2	25.0	Charleston	Seattle	General	7,886	6,616	4,614
Chester Sun	26	22.40	27	9.20	27	19.39	28	0.32	American	Sun Oil Co.	429.3	59.2	19.6	Philadelphia	Los Angeles	Ballast		7,684	5,299
Diadem	26	22.48	27	9.50	27	20.25	27	21.33	British	Hall Brothers	390.0	54.0	15.0	Charleston	Cruz Grande	Ballast		5,918	4,142
Santa Barbara	26	6.00	27	10.30	27	22.05	28		American	Grace Line	404.6	53.0	24.3	Baltimore	Seattle	General, steel	6,219	6,789	4,746
Robert E. Hopkins	27	10.43	27	12.33	27	22.16	27	23.55	American	Tidewater Oil Co.	424.4	58.2	19.6	New York	Los Angeles	Ballast		7,333	5,244
Teno	26	19.36	27	13.12	27	22.55	28	0.11	Chilean	Chilean Line	421.8	56.0	22.7	New York	Valparaiso	General	915	7,758	4,672
Swiftwind	28	3.17	28	6.35	28	16.42	28	19.55	American	Swiftsure Oil Transport Co.	464.0	60.0	20.0	New York	Los Angeles	Ballast		8,473	5,997
Charles Pratt	28	6.02	28	7.53	28	17.35	28	18.55	American	Standard Oil Co.	500.0	68.0	21.0	Charleston	Los Angeles	Ballast		10,313	7,492
Patuxent [3]	19	22.48	28	7.44	28	14.23			American	U. S. Navy	156.0	29.0	16.0	Cristobal	Balboa				
Erroll	28	2.40	28	9.23	28	19.40	28	20.50	British	Australind Steamship Co.	365.0	47.0	23.7	St. John's	Auckland	General	4,500	4,665	3,322
Steelore	28	9.55	28	10.25	28	20.55	29	3.00	American	Ore Steamship Co.	550.3	72.2	24.0	Baltimore	Cruz Grande	Ballast		15,551	4,297
Iowa	28	0.40	28	12.05	28	21.25	28	22.24	French	French Line	450.0	53.3	15.11	Havre	Vancouver	General	580	7,520	5,070
S-31 [4]			28	12.05	28	21.00			American	U. S. Navy	219.0	20.8		Cristobal	Balboa				
S-32 [4]			28	12.05	28	21.00			American	U. S. Navy	219.0	20.8		Cristobal	Balboa				
Lobos [1]	28	7.50	29	6.12	29	12.55	29	14.10	British	Pacific Steam Navigation Co.	404.7	54.2	18.6	Hull	Valparaiso	General	3,348	7,151	4,756
Lancaster	28	17.50	29	6.27	29	13.51	29	23.27	American	Argonaut Steamship Line	434.3	57.7	25.0	Boston	Seattle	General	9,250	7,943	5,872
Waiwera	28	13.45	29	7.10	29	14.45	27	15.54	British	Shaw, Savill & Albion Co.	425.7	54.0	26.0	London	Auckland	General	5,400	7,468	5,433

[1] Motor ship. [2] Training ship. [3] Tug. [4] Submarine.

Paul Luckenbach	28	19.25	29	7.35	29	15.28	29	16.20	American	Luckenbach Line	491.6	59.0	27.0	Philadelphia	Los Angeles	General	7,600	9,027	6,539
Port Melbourne	28	20.35	29	8.55	29	15.53	29	16.44	British	Commonwealth & Dom. Line	501.0	63.4	27.6	Glasgow	Auckland	General	6,621	11,861	9,065
British Star	28	21.50	29	9.05	29	16.40	29	21.07	British	British Government	429.0	57.0	22.0	Glasgow	Los Angeles	Ballast		7,174	4,964
D. G. Schofield	29	1.53	29	10.13	29	17.23	29	22.37	American	Standard Oil Co	439.5	58.0	17.6	Philadelphia	San Francisco	Lubricating oil	(5)	8,698	6,040
Santa Ana	28	19.20	29	10.05	29	18.29	29	22.37	American	Grace Line	360.2	51.6	22.5	New York	Talcahuano	General	1,876	5,776	4,081
Salvador	19	21.43	29	10.12	29	18.25	29	19.35	British	Pacific Steam Navigation Co	215.0	35.0	15.3	Cristobal	Champerico	General	948	1,270	735
Santa Rosalia	29	0.45	29	11.00	29	19.10			American	U. S. Steel Products Co	406.0	52.6	24.7	New York	Talcahuano	General	5,178	5,900	4,413
Panaman	29	4.15	29	11.10	29	20.04	30	0.37	American	American-Hawaiian Line	407.7	53.7	23.0	New York	Puget Sound	General	6,100	7,098	5,029
Josiah Macy	29	6.15	29	12.35	29	21.25	29	22.37	American	Standard Oil Co	419.0	57.2	17.6	New York	Los Angeles	Ballast		7,197	5,082
Canadia Spinner	29	6.40	29	12.25	29	20.39	29	21.35	British	Canadian Govt. Merch. Marine	400.0	52.4	17.0	Halifax	Auckland	General	6,000	5,871	4,094
Huasco	26	15.20	29	13.07	29	22.10	29	23.27	Chilean	Chilean Line	379.7	44.3	20.2	Cristobal	Valparaiso	General	574	4,552	3,182
Kendal Castle	29	7.33	29	13.05	29	22.57	29	23.45	British	Lancashire Shipping Co	418.5	55.6	25.6	New York	Shanghai	General	7,650	6,773	4,973
Bantu	29	10.00	30	6.22	30	14.34	30	16.00	American	Isthmian Lines	360.0	47.0	26.2	New York	Bellingham	(6)	5,275	4,607	3,032
Port Lyttelton	29	17.08	30	7.10	30	16.16	30	17.25	British	Commonwealth & Dom. Line	450.0	55.0	23.6	New York	Sydney	General	2,969	8,124	5,715
Elkton	29	22.55	30	8.20	30	18.16	30	23.40	American	Barber Line (S. B.)	402.6	54.8	22.6	New York	Hongkong	General, case oil	5,877	6,929	5,216
Georgian	30	4.19	30	9.15	30	19.04	30	19.50	American	American-Hawaiian Line	386.8	52.2	24.6	Philadelphia	Los Angeles	General	5,950	5,719	4,023
Hamburg Maru	30	8.50	30	9.45	30	19.55	31	0.02	Japanese	Osaka Shosen Kaisha	400.0	54.0	22.0	New York	Yokohama	(7)	4,539	6,094	4,301
H. M. Storey	30	11.55	30	12.15	30	20.43	30	23.40	American	Standard Oil Co	500.0	68.2	21.0	Baltimore	Los Angeles	Ballast		11,224	7,849
Steel Mariner	30	12.10	30	12.30	30	21.28	30	22.32	American	U. S. Steel Products Co	424.2	56.2	25.0	Galveston	Yokohama	General	7,688	7,611	5,459
Helder	30	1.28	31	6.17	31	14.09	31	16.05	Dutch	Royal Netherlands W. I. Mail	373.0	50.0	18.11	Hamburg	Corral	General	3,573	5,117	3,897
Marore	31	6.22	31	7.25	31	16.50	31	22.52	American	Ore Steamship Co	550.3	72.2	22.0	Baltimore	Cruz Grande	Ballast		15,551	4,297
J. R. Gordon	31	6.45	31	8.55	31	17.29	31	23.43	American	Union Sulphur Co	409.8	51.2	24.0	Sabine	Los Angeles	Sulphur	7,500	6,581	4,781

[5] 6,000 barrels. [6] Steel products and general. [7] Oil, machinery, sulphate of ammonia, and cotton.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Shawmut			25	7.17	25	14.14	30	20.35	American	U. S. Navy	375.0	52.2	17.10	Balboa	Coco Solo						
Mallard No. 44			25	7.24	25	14.19	30	12.30	American	U. S. Navy	187.0	38.0		Balboa	Coco Solo						
Quail No. 15			25	7.34	25	14.23			American	U. S. Navy	180.0	35.6		Balboa	Coco Solo						
Mahan No. 102			25	7.53	25	18.20	30	13.25	American	U. S. Navy	314.0	30.0		Balboa	Coco Solo						
Maury No. 100			25	8.04	25	18.20	31	6.00	American	U. S. Navy	314.0	30.0		Balboa	Coco Solo						
Brazos			25	8.48	25	15.45	26	3.00	American	U. S. Navy	475.0	56.0	19.9	Balboa	Coco Solo						
Loch Goil	25	6.00	25	9.30	25	17.17	25	22.25	British	Royal Mail Steam Packet Co	485.7	62.3	28.9	Vancouver	Liverpool	General	9,452	10,803	7,606		
American	25	5.20	25	10.50	25	19.10	25	20.45	American	United American Lines	406.8	51.1	26.0	Portland	Philadelphia	Lumber	5,373	5,918	4,113		
Casiana	25	7.30	25	11.40	25	19.35	26	1.00	American	E. L. Doheney	254.0	33.0	16.0	San Pedro	Key West			1,197	477		
Erle	25	7.00	25	13.16	25	20.50	25	20.50	Norwegian	Corrissen & Co	399.6	53.0	19.3	Manila	Philadelphia	Hemp, copra	4,350	6,207	4,519		
James McGee	25	13.00	25	14.49	25	22.42	25	22.42	American	Standard Oil Co	499.1	68.2	29.10	San Pedro	New York	Oil	15,000	10,964	7,909		
Trinity			25	15.43	25	23.48	27	8.40	American	U. S. Navy	463.3	60.0	21.0	Balboa	Coco Solo						
Rochester			26	7.39	26	14.37	27	6.35	American	U. S. Navy	300.0	64.0	22.10	Balboa	Coco Solo						
Huasco	25	3.45	26	8.09	26	15.20	29	13.07	Chilean	South American Steamship Co	378.9	44.0	18.0	Valparaiso	Cristobal	General	275	4,552	3,182		
Henderson			26	8.53	26	16.20	26	16.55	American	U. S. Navy	480.0	63.0	22.10	Balboa	Coco Solo						
Bridgeport			26	9.46	26	17.36	26	17.36	American	U. S. Navy	429.3	54.3	14.10	Balboa	Coco Solo						
Childs No. 241			26	9.51	26	18.18	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo						
Sands No. 243			26	9.51	26	18.18	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo						
James K. Paulding No. 238			26	10.13	26	18.18	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo						
Humphreys No. 236			26	10.13	26	18.18	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo						

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net
Brooks No. 232			26	11.14	26	19.13	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo				
Billingstey No. 293			26	11.14	26	19.13	26	21.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo				
Breck No. 283			26	11.30	26	19.13	27	17.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo				
Preston No. 327			26	11.30	26	19.13	27	17.10	American	U. S. Navy	310.0	30.11		Balboa	Coco Solo				
George Washington	25	16.00	26	12.00	26	21.09	26	21.00	Norwegian	Peter Olsen	425.5	55.3	29.0	Portland	Christiana	General	9,185	7,505	5,627
Jacob Luckenbach	26	13.52	26	12.48	26	21.14	26	21.14	American	Luckenbach Line	414.5	53.7	23.6	Seattle	Galveston	General	5,100	7,315	5,270
Cuba	26	6.00	26	13.50	26	22.50			American	Pacific Mail Steamship Co	307.7	42.2	21.6	San Francisco	Cristobal	General	2,223	3,429	2,206
Almagro	26	10.50	26	14.21	26	23.50	27	20.20	British	Pacific Steam Navigation Co	303.4	43.0	15.0	Guayaquil	New York	General	1,103	2,878	1,714
Alaska Maru	26	11.50	26	14.49	26	23.50	27	0.30	Japanese	Osaka Shosen Kaisha	420.0	56.0	21.0	Singapore	New York	General	8,055	7,773	5,639
Imlay	26	12.30	26	15.31	27	13.20	27	13.20	American	Struthers & Barry	425.0	57.0	28.0	San Francisco	New York	Oil	8,964	7,218	4,959
Peursum	26	13.00	26	15.42	27	14.45	27	17.25	Dutch	New Orleans & South Atlantic	281.5	40.0	20.2	Caleta Buena	New Orleans	Nitrate	3,257	2,713	1,867
Lamson No. 328			27	7.12	27	14.34	27	17.10	American	U. S. Navy	314.0	31.0		Balboa	Coco Solo				
Charles Ashburn No. 294			27	7.12	27	14.33	27	17.10	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Coghlan No. 326			27	7.22	27	16.04	27	17.10	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Bruce No. 329			27	7.22	27	16.05	27	17.10	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Worden No. 288			27	7.42	27	16.11	27	17.10	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Reid No. 292			27	7.42	27	16.15	27	21.30	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Lardner No. 286			27	8.07	27	17.40	27	17.40	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Dale No. 290			27	8.07	27	17.40	27	17.40	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Ioney No. 282			27	8.18	27	18.26	27	18.26	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Case No. 285			27	8.18	27	18.26	27	18.26	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Isherwood No. 284			27	8.25	27	17.40	27	17.40	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Osborne No. 295			27	8.25	27	17.40	27	17.40	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Sharkey No. 281			27	8.30	27	17.40	27	17.40	American	U. S. Navy	314.0	31.0		Balboa	Guantanamo				
Australind	26	19.44	27	8.46	27	17.20	27	18.50	British	Australind Steamship Co	384.0	50.1	18.5	Sydney	New York	General	2,700	5,667	4,143
T. J. Williams	26	21.00	27	9.43	27	19.28	27	19.28	American	Standard Oil Co	465.4	60.2	26.9	San Pedro	New York	Oil	11,000	8,585	6,087
Geo. H. Jones	27	1.00	27	10.24	27	19.46	27	19.46	American	Standard Oil Co	429.0	59.2	25.7	San Pedro	Baton Rouge	Oil	10,000	7,689	5,286
Montano	27	3.00	27	11.15	27	20.33	27	20.33	American	Luckenbach Line	419.5	56.5	26.5	Vancouver	Boston	General	6,830	8,696	6,315
Ohican	27	5.40	27	12.19	27	20.51	27	20.51	American	United American Lines	407.0	53.7	26.0	Los Angeles	Philadelphia	General	6,018	7,112	4,896
District of Columbia	27	7.40	27	13.20	27	22.05	27	22.38	American	Walker & Daly	431.0	59.2	25.6	San Pedro	Fall River	Oil	8,587	8,097	5,362
Aswistar	27	10.05	27	13.40	27	23.15	27	23.15	American	American-Hawaiian Line	370.0	53.1	22.6	Los Angeles	New York	General, lumber	5,000	5,523	4,203
Maryland			27	14.40	28	11.35	28	11.35	American	U. S. Navy	600.0	97.5	33.0	Balboa	New York				

Wyoming			28	6.43	28	15.03	28	15.03	American	U. S. Navy	554.0	93.2	30.0	Balboa	Guantanamo					
Delaware			28	7.02	28	16.35	28	16.35	American	U. S. Navy	510.0	85.3	30.8	Balboa	Guantanamo					
Utah			28	7.50	28	16.56	28	16.56	American	U. S. Navy	510.0	88.0	30.0	Balboa	Guantanamo					
North Dakota			28	8.15	28	17.45	28	17.45	American	U. S. Navy	510.0	85.0	30.0	Balboa	Guantanamo					
Alaskan	27	19.00	28	9.01	28	18.26	28	18.26	American	United American Lines	472.1	57.2	31.0	Los Angeles	Liverpool	General	10,841	9,250	6,816
E. T. Bedford	27	22.00	28	9.58	28	18.57	28	18.57	American	Standard Oil Co	499.2	68.1	29.6	San Pedro	New York	Oil	16,716	11,002	7,960
Vancouver Maru	28	6.30	28	10.23	28	20.11	28	21.05	Japanese	Kokusai Kisen Kaisha	385.0	51.0	26.6	Mejillones	New Orleans	Nitrate	8,128	5,919	4,389
Mercy			28	10.46	28	19.40	28	19.40	American	U. S. Navy	455.0	51.0	19.1	Balboa	Guantanamo				
Lark No. 21			28	8.30	28	18.24	30	18.20	American	U. S. Navy	180.0	35.6		Balboa	Guantanamo				
Vireo No. 52			28	10.56	28	19.24	28	20.30	American	U. S. Navy	180.0	35.6		Balboa	Guantanamo				
Antares			28	11.26	28	20.50	28	20.50	American	U. S. Navy	390.0	54.0	19.1	Balboa	Hampton R'ds				
Contocock No. 36			28	11.29	28	20.15	28	20.30	American	U. S. Navy	149.3	30.0		Balboa	Guantanamo				
Muskogee	28	7.00	28	13.01	28	21.14	28	21.14	American	Standard Oil Co	450.9	57.9	26.7	San Pedro	New York	Fuel oil	10,000	7,574	5,193
Proteus			28	14.08	28	22.23	28	22.23	American	U. S. Navy	500.0	62.0	24.0	Balboa	Guantanamo				
Mari	28	14.00	28	15.05	28	22.35	29	12.30	Peruvian	Cia. Navura Amaya	350.4	50.1	21.0	Mejillones	Savannah	Nitrate	5,308	4,346	5,084
Bethore	28	12.03	28	15.50	29	17.35	29	18.30	American	Ore Steamship Corporation	550.3	72.2	32.0	Cruz Grande	New York	Iron ore	20,000	15,476	11,102
Nevadan	29	1.00	29	7.58	29	17.47	29	17.47	American	United American Lines	377.0	58.0	25.5	Valparaiso	New York	General	7,000	5,670	3,627
Eudunda	29	7.00	29	8.39	29	18.40	29	18.40	British	Australian Government	330.3	47.9	15.0	Sydney	Boston	General	1,882	4,400	2,966
J. N. Pew	29	10.25	29	11.38	29	19.44	29	19.45	American	Sun Oil Co	480.5	66.0	29.0	San Pedro	Philadelphia	Oil	13,290	9,494	6,612
Rappahannock			29	13.19	30	11.18	2	12.15	American	U. S. Navy	471.2	59.2	15.4	Balboa	Cristobal				
Majove	29	17.03	30	6.50	30	15.27	30	15.27	American	General Petroleum Corporation	435.0	52.2	26.0	San Pedro	New Orleans	Gasoline	9,200	7,431	5,066
Langley			30	7.52	30	16.55	2	6.30	American	U. S. Navy	520.2	65.2	19.3	Balboa	Guantanamo				
Aconcagua	30	6.00	30	8.44	30	19.02	31	1.30	Chilean	South American Line	422.8	56.2	27.0	Valparaiso	New York	General	5,440	7,758	4,705
Conus	30	3.00	30	12.13	30	20.45	30	20.45	British	Anglo-Saxon Petroleum Co	400.0	52.3	27.0	San Pedro	Gibraltar [a]	Oil	7,574	6,047	4,137
Julia Luckenbach	30	12.00	30	13.42	30	23.25	30	20.45	American	Luckenbach Line	436.0	57.0	28.0	Portland	Boston	General	7,076	8,543	6,402
Delft	30	8.20	30	14.44	30	23.22	31	12.27	Dutch	Royal Netherlands W. I. Mail	369.0	50.0	25.0	Talcahuano	Hamburg	General	6,674	5,862	4,393
Willsolo	30	12.00	30	15.05	30	23.18	30	23.22	American	Williams Steamship Co	434.3	57.7	25.0	Portland	Baltimore	General, lumber	7,740	7,983	5,882
Livingston Roe	30	16.45	31	6.56	31	14.38	31	14.38	American	Standard Oil Co	462.0	60.0	27.10	Los Angeles	New York	Oil	11,974	8,491	6,065
Tuscaloosa City	30	21.45	31	8.01	31	15.00	31	15.00	American	U. S. Steel Products Co	424.2	56.2	23.0	Portland	Baltimore	General	6,383	7,611	5,450
Houma	31	3.00	31	8.44	31	16.45	31	16.45	American	McAllister Brothers	434.8	56.2	26.6	San Pedro	New York	Oil	9,000	7,425	5,161
Minnesotan	30	23.00	31	11.32	31	17.50	31	17.50	American	United American Lines	407.7	53.7	25.0	Everett	Boston	General	6,400	7,150	4,913
Amsterdam	31	10.50	31	12.43	31	22.05	1	10.30	Dutch	Royal Netherlands W. I. Mail	475.0	65.6	26.0	Iquique	Rotterdam	Nitrate of soda	14,000	11,647	8,217
Benjamin Brewster	31	13.00	31	14.03	31	22.18	31	22.18	American	Standard Oil Co	411.6	53.2	26.0	Talara	Habana	Crude oil	5,700	6,177	4,244

[a] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
March 25	Santa Marta	United Fruit Co	New Orleans via Habana.
March 25	Bushnell	U. S. Navy	High seas.
March 26	Perou	French Line	Havre via wayports.
March 26	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
March 26	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam.
March 28	San Bruno	United Fruit Co	Boston via wayports.

*DEPARTURES.

Date.	Vessel.	Line.	For—
March 25	Santa Marta	United Fruit Co	Port Limon via Bocas del Toro.
March 27	Bushnell	U. S. Navy	Guantanamo.
March 27	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
March 28	San Bruno	United Fruit Co	Boston via Port Limon.
March 29	Tivives	United Fruit Co	Colombian ports.

*Other than ships passing through the Canal.

(Continued on page 444, column 2.)

(Continued from page 435.)

OFFICIALS AUTHORIZED TO ISSUE PANAMA CANAL TONNAGE CERTIFICATES—continued

Canada:—continued.

Quebec. Surveyor of Shipping, at Gaspe, Magdalen Islands, Montreal, Paspebiac, Quebec, and Sorel.

Prince Edward Island. Surveyor of Shipping, Charlottetown.

Yukon Territory. Surveyor of Shipping, Dawson.

Manitoba. Surveyor of Shipping, Winnipeg.

Saskatchewan. Surveyor of Shipping, Prince Albert.

British Columbia. Surveyor of Shipping at New Westminister, Prince Rupert, Vancouver, and Victoria.

Ontario. Surveyor of Shipping, at Amherstburg, Belleville, Bowmanville, Brockville, Chatham, Cobourg, Collingswood, Cornwall, Deseronto, Dunnville, Fort William, Goderich, Hamilton, Kenora, Kingston, Lindsay, Midland, Napanee, Oakville, Ottawa, Owen Sound, Peterborough, Picton, Port Arthur, Port Burwell, Port Dover, Port Hope, Port Stanley, Prescott, Sarnia, Southampton, Sault Ste. Marie, St. Catharine's, Simcoe, Toronto, Wallaceburg, Whitby, and Windsor.

Chile. Maritime Governor, Province of Valparaiso, Valparaiso.

Cuba. Inspector General of the Port (in his absence, Collector of Customs).

Denmark. Chief, Bureau of Registry and of Measurement, Copenhagen.

Ecuador. George Chambers Vivero, Navy Officer, Guayaquil; Miseno J. Drouet, Ensign of Frigate, Ballenita; Pablo P. Piedra, Ensign of Frigate, Manglaralto; J. Gabriel Echeverria, Captain of Corvette, Bolivar; Jose a Plaza, Captain of Corvette, Bahia de Caraquez; Valentin Alcivar, Captain of Corvette, Manta; Bolivar, Ensign of Frigate, Esmeraldas.

England. (See United Kingdom.)

France. Administrator of French Customs, Paris.

Germany. Der Reichsschiffsvermessungsamt, Berlin.

Holland. Gauger of Sea Vessels, Amsterdam; Gauger of Sea Vessels, Rotterdam.

Holland (Indies). Commissioner of the Port at Batavia, Banjouwangi, Pangkalan, Telak Beton, Pontianak, Semerang, Tjilatajap, Brandan, Sambou, Bandjermassin, Macassar, Sourabia, Padang, Balawan Deli, Tanjoung-Pinang, Balik Papan, Amboina, Soumenep, Sabang, Palembang, Muntok, and Samarinda.

Hungary. Royal Hungarian Port Office, Fiume.

Italy. Captains of the Ports; Heads of Maritime Divisions; Officials of the Ports; Heads of Maritime Districts.

Japan. Bunichi Najamatsu and Yoshiyasu Araki, Experts of the Communication Bureau, Department of Communications.

Newfoundland. H. W. LeMesurier, Registrar of Shipping.

Norway. Collector of Customs, Christiana; Kontrolrevisionen for Skubsmallingen, Christiana.

Panama. Chief of Customs.

Panama Canal. Chief Admeasurers at either terminal.

Philippine Islands. Supervising Inspector of Hulls and Boilers, Bureau of Customs, Manila.

Peru. Captain of the Port.

Russia:

Petrograd. Minister of Marine, Petrograd.

In the White Sea. The Custom House, Archangel.

In the Baltic Sea—

Magistrate of the town at Torneo, Kemi, Uleaborg, Bragestad, Hamlakarlebu, Iakobstad, Nikolaistad, Kaske, Kristinestad, Raumo, Nustad, Nodendal, and Abo.

Ordningsman Court, Mariaham.

Magistrate of the town at Hango, Ekenes, Helsingfors, Borgo, Loviso, Kotki, Fridrickshan, and Viborg.

Port Custom House, Petrograd.

Custom House at Narva, Reveal, Pernau, Riga, Vindau, and Libau.

In the Black Sea (Government of Cherson). Custom House at Ismailov, Renis, Odessa, Nicolaev, Cherson, Evatoria.

Russia (in the Far East). Custom House, Vladivostok; Custom House, Nicolasvsk.

Siam. Harbor Master General, Bangkok.

Spain. Director General of Navigation and Fisheries, Madrid.

Sweden. Customs Officer, at Stockholm, Vastervik, Marstrand, Barberg, Landskrona, Simrishamn, Karlskrona, Harmosand, Gavle, Bisby, Uddevalla, Falkenberg, Malmo, Solvesborg, Kalmar, Sundsvall, Nykoping, Norrkoping, Lysekil, Halmstad, Tralleborg, Karlshamn, Soderhamn, Oskarshamn, Gotenburg, Stromstad, Halsingborg, Ystad, Ronneby, and Hudiksvall.

Turkey. Second Lieut. Ahmed Moukhtar Effendi, Second Lieut. Arabghirli Mehmed Fazli Effendi, Midshipman Ghiridli Ahmed Arif Effendi. (Note—Advice on July 18, 1914, was that above men were appointed for a certain period only, at the end of which they would be succeeded by others.)

Union of South Africa. Surveyor of Customs, Capetown; Chief Clerk, Department of Customs and Excise, Durban. (In the absence of above, Lloyd's Surveyor at the respective ports.)

United Kingdom. Assistant Secretary to the Board of Trade.

Uruguay. Commandancia de Marina y Capitania General de Puertos.

United States. Collectors of Customs at Boston, Newport News, Galveston, Los Angeles, Providence, Buffalo, Charleston, Port Arthur, Tex., Eagle Pass, Great Falls, Duluth, Chicago, Memphis, New York, Norfolk, San Francisco, Portland, Me., Bridgeport, Pittsburg, Savannah, Laredo, Tex., Nogales, Pembina, Superior, Minneapolis, Des Moines, Philadelphia, Key West, Portland, Ore., Newport, Vt., Ogdensburg, Wilmington, N. C., Jacksonville, El Paso, Juneau, Alaska, St. Paul, Milwaukee, Cleveland, St. Louis, Baltimore, New Orleans, Seattle, Burlington, Vt., Rochester, Salt Lake City, Mobile, Denver, Honolulu, Minneapolis, Detroit, Louisville, and Omaha.

Canal Zone. Chief Admeasurer, Balboa or Cristobal.

Guam. Commandant of Naval Station.

Samoa. Commandant of Naval Station, Tutuila.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended March 31:

Steamships *Killerig*, dock, clean and paint; repack stern gland, secure stern tube guard ring and take stern tube clearance; overhaul sea valves, etc.; *General W. C. Gorgas*, furnish men with air tools to scale as directed; caulk boat deck; *Ulysses*, manufacture 2 sets H. P. piston rings; 2 follower plates for fuel service pump, bearing cap for circulating engine and dogs for boiler doors; renew sounding pipe for No. 1 tank; caulk leaky rivets in fore and after peak tanks, etc; *Cecil County*, install 2 new 2½-inch bottom blow valves and machine 1 blow valve; *Speaker*, repair steering gear; launch *No. 26*, renew about 17 plates and 5 frames and suction strainer; repair plates in coal bunkers, guard angle irons and chafing irons; install new shoe, etc.; steamships *Stuyvesant*, *Cuba*, *Halloway*, *Amsterdam*, *Mundelta*, and launch *Corona*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 31, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo.	
				Discharged	Laded.
				Tons.	*Tons.*
San Francisco	Johnson Line	March 25	March 25	25	.....
Huasco	South American Line	March 25	March 26	116	.....
Almagro	Pacific Steam Navigation Co	March 26	March 26	3	.....
George Washington	Peter Olsen	March 23	March 26	.....	118
Cuba	Pacific Mail Steamship Co	March 26	March 23	69	.....
General O. H. Ernst	Panama Railroad Steamship Line	March 26	March 26	.....	182
Salvador	Pacific Steam Navigation Co	March 29	March 29	.....	13
Aconcagua	South American Line	March 30	March 30	4	.....

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 4, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.27
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.24
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.50
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal, or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 31, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Lochgoil	Pacific Steam Navigation Co.	March 25	March 25	(1)	70
Santa Marta	United Fruit Co.	March 25	March 25	(1)	81
Gen. O. H. Ernst	Panama Railroad Steamship Line	March 25	March 26	361	4
Moerdijk	Holland-American Line	March 25	March 26	160	68
Cuba	Pacific Mail Steamship Line	March 26	.....	2,225	.....
Santa Barbara	Grace Line	March 26	March 27	117	119
Stuyvesant	Royal Netherlands W. I. Mail	March 26	March 27	272	(2)
Almagro	Pacific Steam Navigation Co.	March 26	March 27	96	94
Teno	Chilean Line	March 26	March 27	(1)	305
Huasco	Chilean Line	March 26	March 29	311	583
Salvador	Pacific Steam Navigation Co.	.....	March 29	.....	984
Perou	French Line	March 26	March 30	90	449
Gen. W. C. Gorgas	Panama Railroad Steamship Line	March 26	March 30	1,971	3,538
San Bruno	United Fruit Co.	March 28	March 28	10	59
Lobos	Pacific Steam Navigation Co.	March 28	March 29	49	66
Iowa	French Line	March 28	March 28	54	32
Parismina	United Fruit Co.	March 28	March 29	869	61
Ulysses	Panama Railroad Steamship Line	March 28	.....	12,025	.....
Tivives	United Fruit Co.	March 28	March 29	1	219
Carrillo	United Fruit Co.	March 29	March 29	9	10
Santa Marta	United Fruit Co.	March 29	March 29	5½	89
Toloa	United Fruit Co.	March 30	March 31	513	185
Helder	Royal Netherlands W. I. Mail	March 30	March 31	181	69
Delft	Royal Netherlands W. I. Mail	March 30	March 31	45	79
Aconcagua	Chilean Line	March 30	March 31	4	(2)
Stuyvesant	Royal Netherlands W. I. Mail	March 30	March 31	(1)	734
Coronado	Elders & Fyffes, Ltd.	March 31	March 31	10½	(2)

[1] No cargo discharged. [2] No cargo laded. [3] 100 pounds.

Schedule of Official Jitney Service.

Following is the schedule of the official jitney plying between Balboa shops and the Ancon police station, carrying employees in the conduct of official business, upon presentation of passes issued by the Chief Quartermaster or of the "special pass" issued by the Governor:

FROM ANCON POLICE STATION TO BALBOA SHOPS.

Police Station	Leave on the hour and half hour.
Administration Building	Leave 7 minutes and 37 minutes after the hour.
Balboa Commissary	Leave 10 minutes and 40 minutes after the hour.
Balboa shops	Arrive 15 minutes and 45 minutes after the hour.

FROM BALBOA SHOPS TO ANCON POLICE STATION.

Balboa shops	Leave 15 minutes and 45 minutes after the hour.
Port Captain's Office	Leave 18 minutes and 45 minutes after the hour.
Balboa Commissary	Leave 20 minutes and 50 minutes after the hour.
Administration Building	Leave 25 minutes and 55 minutes after the hour.
Ancon Police Station	Arrive on the hour and half hour.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Panama	March 24	March 29	April 1	April 9	April 12	April 16.
Cristobal [1]	April 4	April 9	April 12	April 18	April 21	April 25.
Gen. W. C. Gorgas	April 14	April 20	April 23	April 29	May 2	May 7.
Panama	April 25	April 30	May 3	May 9	May 12	May 16.
Cristobal [1]	May 5	May 10	May 13	May 19	May 22	May 26.
Gen. W. C. Gorgas	May 15	May 21	May 24	May 29	June 1	June 6.
Panama	May 25	May 30	June 2	June 9	June 12	June 16.

Steamers sail at 3 p. m. from Pier 67, North River, foot of West 27th St., New York.
[1] Sails 3 p. m. from pier 65, North River, foot of West 25th St.

WEST COAST SERVICE.

In addition, a regular freight service is maintained direct to Buenaventura and Ecuadorian ports by the steamships *General O. H. Ernst* and the *General G. W. Goethals*, and other steamers.

Location of Patients, and Visiting Hours, at Ancon Hospital.

The following table shows the distribution of patients in the Ancon hospital buildings and the visiting hours for the various wards and sections:

Section and Ward.	Present number of beds.	Visiting hours.
Section "A"—White American, male:		Tuesdays, Thursdays, and Saturdays, 2 to 4.30 p. m. and 6.30 to 7.30 p. m. Sundays and holidays, 9.30 to 11 a. m. and 2.30 to 4.30 p. m.
Ward No. 1, Medical, Eye and Ear	44	
Ward No. 2, Medical, Eye and Ear	41	
Ward No. 3, Surgical	44	
Ward No. 4, Surgical	41	
Cells (2)	2	
	172	
Section "B":		
White American, female	23	Daily except Sunday, 2 to 4.30 p.m.; 6.30 to 8 p. m.
White foreign, female	15	Sundays and holidays, 8.30 to 11 a. m.; 2 to 4.30 p. m. 6.30 to 8 p. m.
Nursery	16	No visitors permitted.
Private rooms (40)	46	Daily, 9.30 to 11 a. m.; 2 to 4.30 p. m.; 6.30 to 8 p. m.
Cells (2)	2	
	102	
Section "C":		
Ward No. 9, White foreign, male	39	Wednesdays, Sundays, and holidays, 1.30 to 3 p. m.
Ward No. 10, Colored, eye and ear, convalescent medical	39	
Ward No. 11, Colored Acute surgical	39	
Ward No. 12, Colored Acute surgical	39	
Ward No. 13, Colored Convalescent surgical	39	
Ward No. 14, Colored Convalescent surgical	39	
Cells (6)	6	
Rooms (7)	7	
	247	
Section "D":		
Ward No. 15	41	
Ward No. 16	39	
Ward No. 17, Colored children	32	Wednesdays, Sundays, and holidays, 1.30 to 3 p. m.
Ward No. 18, White children	30	Daily, 9.30 to 11 a. m.; 2 to 4 p. m.
Ward No. 19, Colored female medical	41	Wednesdays, Sundays, and holidays 1.30 to 3 p. m.
Ward No. 20, Colored female surgical	34	
Rooms (6)	6	
Cells (6)	6	
	229	
Isolation:		No visitors permitted.
Floor No. 1	14	
Floor No. 2	29	
Floor No. 3	28	
Floor No. 4	28	
	99	
Total number	849	

Emergency passes are issued only by and in the discretion of the section nurse.

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse 3 p. m., 3.30 p. m., 4 p. m., and every 15 minutes thereafter until 10.45 p. m.

Leave Balboa clubhouse 2.45 p. m., 3.15 p. m., 3.45 p. m., and 4.15 p. m., and every 15 minutes thereafter until 10.30 p. m. There will be no 10.45 p. m. bus from Balboa, but one will leave at 11 p. m.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.50 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.. .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 439.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
March 28	Parismina	United Fruit Co.	New Orleans via Habana.
March 28	Tivives	United Fruit Co.	New York via Kingston.
March 28	Ulysses	Panama Railroad Steamship Line.	Norfolk.
March 29	Santa Marta	United Fruit Co.	Port Limon.
March 29	Carrillo	United Fruit Co.	Colombian ports.
March 29	Killerig *	Lindsay, Swann & Hunter	Kingston.
March 30	Tolosa	United Fruit Co.	New York via wayports.
March 30	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
March 30	St. Mihiel *	U. S. Army	New York via San Juan.
March 31	Coronado	Elders & Fyffes, Ltd	Port Limon.
March 31	Bocas de Ceniza	Black, McKinney, & Stewart	Charleston.

* Tug. ‡ Transport.

*DEPARTURES.

Date.	Vessel.	Line.	For—
March 29	Santa Marta	United Fruit Co.	New Orleans.
March 29	Carrillo	United Fruit Co.	New York via Kingston.
March 29	Parismina	United Fruit Co.	New Orleans via wayports.
March 30	Perou	French Line	Havre via wayports.
March 30	Killerig *	Lindsay, Swann & Hunter	Kingston.
March 30	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
March 31	Coronado	Elders & Fyfes, Ltd	Kingston.
March 31	Tolosa	United Fruit Co.	New York via wayports.
March 31	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
March 26	Los Amigos	J. Z. Goldberg	Punta Arenas, C. R.				

* Other than ships passing through the Canal.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

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Tanker Tonnage Through Canal Shows Large Increase.

The volume of tanker tonnage using the Canal has increased steadily the past several months, and for March comprised a little more than 30 per cent of the total commercial tonnage using the Canal. A large percentage of this tonnage is engaged in the United States intercoastal trade, and as a consequence the predominance of tankships under the United States flag is pronounced.

The following statement shows the number of tankers transiting the Canal during March, together with their aggregate tonnage, tolls, and cargo, segregated by flag, and between eastbound and westbound traffic:

Nationality.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
United States	57	354,620	$264,949.30	21,285
British	11	51,226	39,247.02	9,500
Norwegian	1	5,520	4,049.25	.....
Totals	69	411,366	308,245.57	30,785
Pacific to Atlantic:				
United States	45	275,687	293,800.50	511,699
British	5	26,206	24,971.51	29,160
Totals	50	301,893	318,772.01	540,859

The following statement shows Canal traffic for the month of March segregated between tank ships and general cargo vessels:

Nationality.	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Tank ships	119	713,259	$627,017.58	571,644
General cargo vessels	290	1,274,933	1,200,700.86	1,369,284
Total traffic	409	1,988,192	1,827,718.44	1,940,928

In cargo tons, the volume of mineral oils carried by tankers transiting the Canal in March exceeded the combined cargo tonnage of all commodities carried by vessels transiting the Canal from the Pacific to the Atlantic in any previous March during the period of operation of the Canal.

Planet Line for Intercoastal Trade.

Press reports state that the Green Star Steamship Corporation, formerly operating ships through the Canal between the Atlantic coast of the United States and the Far East, has been reorganized as the Planet Steamship Corporation; and that the new organization is preparing to operate a fleet of at least 7 ships in the United States intercoastal trade.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 7, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Fugi Maru	31	17.34	1	6.25	1	13.55	1	15.05	Japanese	Kokusai Kisen Kaisha	405.0	53.0	25.0	Galveston	Yokohama	General	5,326	7,025	5,055
Mundelta	31	17.53	1	7.25	1	15.50	1	21.11	American	Munson Line	378.0	53.2	25.0	Baltimore	Seattle	General	6,820	5,668	4,297
Matinicock	31	17.58	1	8.00	1	16.38	1	18.30	American	Standard Oil Co	460.0	60.0	17.0	New York	Los Angeles	Ballast		8,171	5,882
Cecil County	30	17.45	1	9.03	1	17.16	1	18.30	American	Walker & Daly (S. B.)	431.0	59.0	21.10	Pensacola	Los Angeles	Ballast		8,097	5,261
El Grillo	31	20.12	1	9.35	1	18.00	2	1.50	British	Lobitos Oil Co	440.0	57.0	20.0	Barrow	Los Angeles	Ballast		7,468	5,042
Swiftlight	1	6.20	1	9.58	1	18.41	2	5.34	American	Swiftsure Oil Transport. Co	464.0	60.2	20.0	New York	Los Angeles	Ballast		8,473	6,050
Delaware Sun	1	14.55	2	6.30	2	18.35	3	0.22	American	Sun Oil Co	480.5	66.0	22.0	Philadelphia	Los Angeles	Ballast		9,402	6,586
Halway	1	15.20	2	7.15	2	19.35	2	20.41	American	Walker & Daly (S. B.)	435.0	56.0	19.0	Mobile	Los Angeles	Ballast		7,643	5,319
H. H. Rogers	1	22.45	2	8.42	2	20.40	2	21.49	American	Standard Oil Co	500.0	68.0	19.0	New York	Los Angeles	Ballast		10,308	7,668
Agwismith	2	6.07	2	9.20	2	21.35	3	2.53	American	Atl. Gulf & W. I. S. S. Co	499.9	68.1	20.0	New York	Los Angeles	Ballast		10,600	7,710
Urubamba	1	8.40	2	10.15	2	22.18	2	23.25	Peruvian	Peruvian Line	381.0	46.0	19.9	Cartagena	Callao	General, cattle	356	4,803	2,951
Ebro	1	17.27	2	12.38	2	23.37	3	0.41	British	Pacific Steam Navigation Co	450.0	57.0	25.3	New York	Valparaiso	General	2,387	9,151	6,227
Wilhelm [1]			2		2	11.21			American	U. S. Army				Cristobal	Gatun Lake				
William Campion	2	18.48	3	6.30	3	13.59	3	18.18	American	Garland Steamship Co	384.4	51.2	23.0	New York	Seattle	General	3,987	6,327	4,433
Lillian Luckenbach	3	1.00	3	8.13	3	15.07	3	16.12	American	Luckenbach Line	448.9	60.0	25.0	New York	Los Angeles	General	5,000	9,294	6,865
Tremere	3	8.45	3	9.00	3	17.29	3	18.28	British	Hain Steamship Co	475.0	60.9	26.0	New York	Auckland	General	6,572	8,946	6,145
Cuba	3–26	22.50	3	9.55	3	18.10	3	21.40	American	Pacific Mail Steamship Co	307.8	42.3	19.5	Cristobal	San Francisco	General	1,700	3,429	2,206
F. H. Hillman	3	4.10	3	13.00	4	16.22	4	17.40	American	Standard Oil Co	500.0	68.2	21.10	London	San Francisco	Ballast		11,225	7,913
Clemons [1]			3		3	12.04			American	American Banana Corporation				Cristobal	Gatun Lake	Ballast		2	2
A.B.C. No. 1 [2]			3		3	12.04			American	American Banana Corporation				Cristobal	Gatun Lake	Ballast		12	12
A.B.C. No. 2 [2]			3		3	12.04			American	American Banana Corporation				Cristobal	Gatun Lake	Ballast		5	5
A.B.C. No. 3 [2]			3		3	12.04			American	American Banana Corporation				Cristobal	Gatun Lake	Ballast		5	5
Rio Gatun [1]	3		4		4	13.20			Panaman	A. R. Eckhardt	31.4	8.0		Cristobal	Gatun Lake	Liquor		8	8
Tuxpanoil	3	16.10	4	6.17	4	14.35	4	15.35	American	McAllister Brothers (S. B.)	431.0	59.2	20.0	Mobile	Los Angeles	Ballast		7,862	4,979
Hahatonka	3	17.47	4	7.27	4	15.20	4	16.20	American	McAllister Brothers (S. B.)	435.6	56.2	19.0	Pensacola	Los Angeles	Ballast		7,426	5,094
Steel Exporter	3	21.25	4	8.35	4	17.58	4	22.18	American	U. S. Steel Products Co	424.2	56.2	27.7	New York	Seattle	General	8,523	7,611	5,450
Cauca	2	22.15	4	10.00	4	18.18	4	19.35	British	Pacific Steam Navigation Co	246.0	35.0	14.7	Cristobal	Acajutla	Ballast		1,589	1,618
Ansaldo San Giorgio I	3	22.43	4	11.25	4	19.20	5	0.21	Italian	Societa Nazional de Navigazione	385.0	49.0	16.0	Genoa	Valparaiso	General	1,176	5,657	3,974
Honduras	4	13.22	5	6.15	5	15.35	5	16.53	French	French Line	387.1	51.4	17.1	Antwerp	Valparaiso	General	267	6,020	4,363
R-21 [3]			5	6.20	5	13.47			American	U. S. Navy	175.0	16.7¾		Cristobal	Balboa				
R-23 [3]			5	6.20	5	13.47			American	U. S. Navy	175.0	16.7¾		Cristobal	Balboa				
Willhilo	5	5.05	5	7.20	5	22.12	6	1.35	American	Williams Steamship Line	450.0	57.6	27.6	Philadelphia	Los Angeles	Iron, steel, gen	9,500	7,983	5,882
Hazel Branch	4	19.40	5	8.40	5	23.00	5	23.58	British	F. and W. Ritson	409.0	51.0	20.0	Liverpool	Coronel	General	4,008	5,208	3,578
Steel Inventor	5	8.30	5	9.55	5	23.49	6	3.20	American	U. S. Steel Products Co	425.0	56.0	25.10	Baltimore	San Diego	Steel products	8,722	7,611	5,450
Agwipond	5	9.29	5	10.35	6	0.43	6	4.30	American	Atl. Gulf & W. I. S. S. Co	468.3	62.7	18.0	Fall River	Los Angeles	Ballast		9,810	6,871

[1] Launch. [2] Barge. [3] Submarine.

M. S. Dollar	6	8.47	6	9.00	6	17.16	7	16.05	British	Dollar Line	475.5	61.0	28.0	New York	Shanghai	General	9,411	10,116	7,680
Monadnock	5	23.25	6	10.00	6	18.00	6	19.30	British	Andrew Weir & Co	373.5	51.3	25.2	Norfolk	Manila	General	5,000	5,692	4,329
Rio Gatun [1]	5	.....	6	.....	6	12.04	....	.....	Panaman	A. R. Eckhardt	31.4	8.0	.....	Cristobal	Gatun	Liquor	.....	8	8
Eclipse	6	14.45	7	6.24	7	20.43	7	22.11	American	Barber Line (S. B.)	440.0	56.0	24.9	New York	Yokohama	General	6,397	8,293	6,080
Fred W. Weller	6	16.25	7	7.25	7	21.44	8	6.17	American	Standard Oil Co	500.0	68.0	29.0	New York	Los Angeles	Ballast	.....	10,928	7,710
Manavi	2	22.22	7	8.05	7	17.25	7	22.11	British	Pacific Steam Navigation Co	216.0	35.0	14.4	Cristobal	Guayaquil	General	716	1,357	884
Swiftstar	6	17.27	7	8.40	7	22.30	8	11.30	American	Swiftsure Oil Transport. Co	464.0	60.0	24.0	Boston	Los Angeles	Ballast	.....	8,473	6,050
Frank G. Drum	7	4.10	7	10.00	7	23.20	8	3.46	American	Associated Oil Co	435.0	56.2	20.0	Fall River	Los Angeles	Ballast	.....	7,525	5,125
Laura C. Hall [4]	6	20.20	7	10.10	7	18.11	8	11.05	British	Pacific Metals Corporation	81.0	25.6	9.0	Cristobal	Buenaventura	General	65	132	72

[4] Motor schooner.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Kanawha	.....	.....	1	7.11	1	13.45	2	18.00	American	U. S. Navy	455.0	56.0	19.0	Balboa	Guantanamo	.....	.....	.....	.....
San Gaspar	31	19.00	1	8.09	1	16.07	1	16.07	British	Anglo-Mexican Petroleum Co	530.2	68.5	30.9	San Pedro	Tampico	Oil	16,717	13,422	9,368
Marie Maersk	1	5.20	1	8.52	1	17.05	1	17.40	Danish	A. P. Mollar	351.8	49.9	26.4	Taltal	Wilmington	Nitrate	7,225	4,971	3,428
Orient	1	8.45	1	10.00	1	17.12	1	19.05	American	Oriental Navigation Co	390.0	52.0	21.8	Victoria	Boston	Lumber	5,500	5,455	3,879
Athenic	1	11.05	1	12.42	1	20.15	2	11.25	British	Shaw, Saville, & Albion	500.0	63.0	27.0	Lyttleton	London	Cold storage	5,346	12,896	9,571
Swift Eagle	1	15.30	2	6.58	2	14.28	2	14.28	American	C. D. Mallory & Co	465.0	60.0	28.0	San Pedro	Fall River	Oil	11,000	8,473	5,997
Acajutla	1	16.00	2	7.03	2	15.35	.....	.....	British	Pacific Steam Navigation Co	215.7	33.5	16.6	Champerico	Cristobal	General	1,084	1,273	706
Romsdalshorn	1	20.00	2	8.03	2	16.12	2	16.53	Norwegian	Wessel, Duval & Co	420.0	53.9	28.5	Tocopilla	Norfolk	Nitrate	10,280	6,592	4,733
Oak Branch	1	21.30	2	8.56	2	17.00	2	23.35	British	F. and W. Ritson	398.0	49.9	23.3	Paita	Liverpool	General	6,231	5,209	4,035
Eagle	1	12.00	2	9.49	2	17.13	2	17.13	American	Crowell & Thurlow	410.0	56.0	26.3	Scattle	Baltimore	General, lumber	7,275	8,243	6,266
Santa Luisa	2	7.00	2	10.49	2	17.45	2	21.14	American	Grace Line	360.2	51.6	23.6	Talcahuano	New York	General	4,049	5,694	3,975
Arcturus	2	8.00	2	11.27	2	19.47	2	19.47	German	Roland Line	369.0	51.0	23.6	Corral	Bremen	General	6,057	4,899	3,704
Jason	.....	.....	2	12.54	2	20.48	2	20.48	American	U. S. Navy	514.0	65.0	23.7	Balboa	Norfolk	Ballast	.....	.....	.....
Manavi	2	9.00	2	13.40	2	22.15	7	8.05	British	Pacific Steam Navigation Co	216.0	35.1	12.10	Guayaquil	Cristobal	General	408	1,357	884
Cauca	2	10.05	2	13.44	2	22.20	4	10.00	British	Pacific Steam Navigation Co	246.0	35.0	16.10	Corinto	Cristobal	General	1,129	1,589	1,018
Garfield	2	5.00	2	14.14	2	23.00	3	10.35	American	Grace Line	300.0	45.0	16.0	Guayaquil	New York	General	784	3,256	2,010
John D. Archbold	2	14.10	2	14.43	3	14.25	3	14.25	American	Standard Oil Co. of N. J	554.9	75.3	31.0	San Pedro	New York	Oil	20,000	14,785	10,313
West Greylock	2	22.30	3	7.40	3	15.10	3	15.10	American	Seas Shipping Co	430.7	54.3	15.7	San Francisco	New York	Ballast	.....	7,946	5,698
San Felix	3	6.30	3	8.50	3	17.27	3	17.27	British	Eagle Oil Transportation Co	536.4	69.4	30.4	San Pedro	Tampico	Oil	17,000	.....	.....
Sciota	.....	.....	3	8.59	3	17.08	.....	.....	American	U. S. Navy	149.3	30.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Swiftscout	3	2.00	3	12.12	3	19.45	4	2.20	American	C. D. Mallory & Co	464.0	60.2	26.0	Los Angeles	Fall River	Oil	12,000	8,473	6,104
W. S. Rheem	3	13.45	3	14.24	3	22.20	3	22.20	American	Standard Oil Co. of California	500.0	68.2	30.0	San Diego	New York	Oil	14,990	11,224	7,860
Piako	3	21.00	4	7.56	4	15.30	4	17.50	British	New Zealand Shipping Co	450 0	58.0	23.0	Auckland	Avonmouth	General	5,652	8,459	6,060
Rosandra	4	6.45	4	8.53	4	16.42	4	18.20	Italian	Navigasione Libera Triestina	465.0	57.0	27.3	Antofagasta	Wilmington	Nitrate	9,300	8,028	5,359
Annapolis	.....	.....	4	9.51	4	18.05	5	15.38	American	U. S. Navy	203.0	40.0	13.8	Balboa	Cristobal	.....	.....	.....	.....
Dochra	4	10.15	4	12.01	4	20.20	4	21.00	American	Munson Line	370.0	51.0	22.0	Aberdeen	New York	Lumber	5,400	5,158	3,813
Jadden	4	9.15	5	6.56	5	14.40	5	17.40	American	Tampa Interocean S. S. Co	410.5	54.2	26.0	Shanghai	New York	General	8,273	7,496	5,686
Sabine Sun	4	16.37	5	7.52	5	15.43	5	15.43	American	Sun Oil Co	429.3	59.2	27.0	Los Angeles	Chester, Pa	Oil	10,500	7,621	5,182
Paul Shoup	4	.....	5	8.40	5	16.50	5	16.50	American	Associated Oil Co	424.4	58.2	27.0	San Pedro	Fall River	Oil	10,205	7,333	5,119
Ansaldo San Giorgio No. 3	4	15.00	5	9.47	5	17.35	5	19.58	Italian	Societa Nazionale di Navigazione	385.7	51.7	24.0	Valparaiso	Genoa	General	6,700	5,759	4,013
John D. Rockefeller	5	6.00	5	10.44	5	18.40	5	18.40	American	Standard Oil Co	458.3	60.0	25.9	San Pedro	New York	Oil	10,800	8,653	6,362
Ganymedes	5	9.15	5	11.39	5	20.00	7	10.55	Dutch	Royal Amsterdam Co	340.0	48.0	19.0	Iquique	Amsterdam	Nitrate, general	3,192	4,214	3,123
Peter Kerr	5	11.45	5	13.57	5	21.18	5	21.18	American	Colombia-Pacific Shipping Co	415.0	55.7	25.0	Portland	Boston	Lumber	6,400	7,704	5,707

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
David McKelvey	5	13.00	5	14.20	5	22.45	6	3.20	American	Tidewater Oil Co	430.0	59.2	27.0	Los Angeles	New York	Oil	11,000	7,629	5,393
Fairfield City	5	9.30	5	14.44	5	23.23	5	23.23	American	U. S. Steel Products Co	424.2	56.2	15.6	Honolulu	Hampton R'ds	Ballast		7,611	5,450
Ida [5]			5		5				American	J. A. Blair				Balboa	Cristobal	Ballast			
Bethelridge	5	9.00	5	15.42	6	0.23	6	0.23	American	Walker & Daly	431.0	59.2	25.5	San Pedro	New York	Oil	8,318	7,819	5,007
Chuky	5	13.59	5	15.50	6	0.32	6	3.15	British	Chile Steamship Co	440.8	56.0	16.0	Tocopilla	Tampico	Ballast		7,691	4,723
Ecuador	5	4.45	6	7.10	6	14.10	7	12.00	American	Pacific Mail Steamship Co	380.6	48.7	24.0	San Francisco	New York	General	2,500	5,926	4,178
Darien	5	7.00	6	6.56	6	14.06			Panaman	A. B. Obarrio & Co	92.0	26.0	7.0	Buenaventura	Cristobal	Oil drums, coffee	68	169	50
Sudbury	5	19.24	6	8.02	6	15.20	6	15.20	American	American-Hawaiian Line	384.0	51.2	23.6	Astoria	New Orleans	General	6,680	5,571	4,033
Spreewald	5	19.30	6	8.52	6	16.36	6	19.10	German	Hamburg-Amerika Line	399.0	54.0	28.0	Valparaiso	Hamburg	Nitrate	8,270	6,791	4,997
Balboa	6	2.00	6	9.52	6	16.45	8	9.55	Colombian	Compania Costancia Colombiana	190.0	29.0	14.5	Tumaco	Cristobal	General	519	737	335
Modica	6	0.05	6	10.35	6	18.06	6	18.06	Norwegian	Iver Christensen	371.0	52.1	24.5	Mejillones	Wilmington	Nitrate	7,100	5,007	3,539
Egypt Maru	6	10.20	6	11.08	6	19.10	7	2.30	Japan	Kokusai Kisen Kaisha	400.0	53.7	27.0	Vancouver	New York	Lumber	7,200	7,018	5,107
Laura C. Hall	2–28	6.00	6	12.40	6	20.20	7	10.10	British	Pacific Metals Corporation	81.0	25.6	8.1	Buenaventura	Cristobal	Coffee, gold	49	132	72
Robin Adair	6	12.29	6	14.23	6	21.25	6	21.25	American	Seas Shipping Co	424.8	55.2	24.0	Seattle	New York	General, lumber	6,509	7,470	5,529
Agwilake	6	13.09	7	6.58	7	15.10	7	15.10	American	Ward Line	468.3	62.7	27.6	Los Angeles	Boston	Oil	12,500	7,802	7,138
Willfaro	6	19.15	7	7.52	7	15.38	7	15.38	American	Williams Steamship Co	386.8	52.2	21.0	San Francisco	New York	Lumber, general	5,697	5,684	4,113
Essequibo	6	22.10	7	8.48	7	16.24	7	21.10	British	Royal Mail Steam Packet Co	450.3	57.8	25.0	Valparaiso	New York	General	4,159	9,099	6,117
Lena Luckenbach	6	21.27	7	8.50	7	16.39	7	16.39	American	Luckenbach Line	425.0	53.8	19.2	Portland	Mobile	General	2,000	7,216	5,296
Herakles	7	8.00	7	9.47	7	18.15	7	18.15	Norwegian	Dupont	389.2	54.1	25.0	Iquique	Charleston	Nitrate	8,150	5,680	4,220
Zenon	7	9.00	7	10.17	7	19.40	8	2.48	French	French Line	425.0	55.0	25.0	San Francisco	Hull	General	7,403	6,982	4,934
Durango	6	23.37	7	10.48	7	19.50	7	19.50	American	McAllister Brothers	435.0	53.0	25.8	San Pedro	Fall River	Crude oil	9,300	7,642	5,274
F. Q. Barstow	7	1.10	7	12.15	7	21.30	7	21.30	American	Standard Oil Co	500.0	68.2	30.0	San Pedro	Baltimore	Crude oil	14,713	10,526	7,711
Tilthorn	7	11.00	7	13.17	7	22.40	7	22.40	Norwegian	Wessel, Duval & Co	420.2	53.9	28.7	Iquique	Charleston	Nitrate	10,200	6,591	4,730
Huallaga	5	18.43	7	13.50	7	23.55			Peruvian	Peruvian Line	360.0	44.7	20.0	Iloilo	Cristobal	General	1,330	4,514	2,386
Canadian Pioneer	7	13.15	7	14.24	8	0.18	8	6.30	British	Canadian Government	400.4	52.4	18.6	Auckland	Halifax	General	3,700	5,877	4,070

[5] Launch.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
April 1	Panama	Panama Railroad Steamship Line	New York via Haiti.
April 1	Abangarez	United Fruit Co	New Orleans via Habana.
April 1	Gamble [6]	Fife Steamship Co	Mayaquez, P. R.

*DEPARTURES.

Date.	Vessel.	Line.	For—
April 2	St. Mihiel [7]	U. S. Army	New York via wayports.
April 2	Abangarez	United Fruit Co	Bocas del Toro.
April 3	Speaker	Harrison Line	Demerara.

[6] Schooner. [7] Transport.

*Other than ships passing through the Canal.

(Continued on page 456, column 2.)

Commercial Traffic Through the Panama Canal in March, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons o cargo.
United States intercoastal:							
United States	85	394,539	479,786	608,185	388,783	$388,160.89	237,564
From United States to South America:							
United States	11	39,844	48,288	67,010	39,717	41,605.44	18,206
Norwegian	9	27,397	35,245	43,763	27,112	26,800.79	2,103
British	4	12,381	16,394	20,883	12,731	13,953.38	2,587
Japanese	3	12,787	14,166	18,323	12,551	10,307.19	.....
Danish	2	5,372	6,140	8,514	5,291	5,391.91	3,542
Italian	1	4,738	5,359	7,746	4,798	3,858.48	.....
Chilean	1	3,479	4,672	7,289	3,886	4,348.75	915
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Totals	32	109,137	134,311	178,704	109,316	109,179.78	27,353
From United States to Far East:							
United States	7	30,667	39,723	45,988	30,525	38,333.75	55,156
British	7	29,364	37,245	46,737	29,570	36,705.00	46,099
Japanese	6	23,767	28,767	36,519	23,103	29,529.30	33,198
Norwegian	2	5,624	8,234	8,887	5,668	7,030.00	10,777
Totals	22	89,422	113,969	138,131	88,866	111,598.05	145,230
From Europe to South America:							
British	7	26,661	33,340	43,391	26,811	33,326.25	26,935
Dutch	5	17,361	23,748	27,930	17,373	17,633.42	10,356
German	2	6,481	8,490	10,610	6,536	8,101.25	5,961
French	1	3,566	4,081	5,681	3,600	4,457.50	818
Italian	1	2,008	2,090	2,850	1,675	2,508.00	790
Totals	16	56,077	71,749	90,462	55,995	66,026.42	44,860
From Europe to United States:							
British	7	26,737	31,727	45,316	26,257	25,201.60	9,400
United States	3	14,977	16,693	22,336	15,722	12,202.32	.....
Norwegian	3	12,939	16,602	19,406	12,575	13,474.25	15,009
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	4,819
Totals	14	59,906	69,041	90,803	57,412	53,694.42	29,228
From United States to Australasia:							
British	8	37,228	48,018	54,710	34,668	46,114.10	47,624
United States	1	3,604	4,480	5,816	3,604	4,505.00	4,260
Totals	9	40,832	52,498	60,526	38,272	50,619.10	51,884
From British Isles to Australasia:							
British	8	42,910	56,566	68,434	43,332	53,637.50	46,384
From Cristobal, C. Z., to South America:							
Chilean	3	4,883	8,406	10,341	6,193	6,103.75	2,873
Peruvian	2	2,504	5,364	7,922	3,941	3,130.00	1,108
Panaman	2	62	100	350	314	72.00	.....
British	1	549	884	1,041	615	686.25	678
Totals	8	7,998	14,754	19,654	11,063	9,992.00	4,659
From Europe to Canada:							
British	3	10,238	13,329	16,433	10,288	12,797.50	10,051
French	2	9,149	10,473	12,491	7,767	11,436.25	2,722
Dutch	1	4,547	7,056	7,310	4,495	5,683.75	1,807
Danish	1	3,317	5,303	5,296	3,311	4,146.25	8,588
Totals	7	27,251	36,161	41,530	25,861	34,063.75	23,168
From Canada to Australasia:							
British	3	8,829	11,551	14,940	9,227	11,036.25	16,467
From United States to Canada:							
United States	2	6,930	10,904	11,406	6,922	8,662.50	17,055
Dutch	1	2,967	3,839	4,751	2,965	3,708.75	240
Totals	3	9,897	14,743	16,157	9,887	12,371.25	17,295
Foreign vessels in ballast between United States ports:							
British	3	12,623	15,088	21,142	12,652	11,919.71	.....
From Cristobal, C. Z., to Central America:							
British	3	2,143	2,459	3,746	2,194	2,340.46	1,790
From United States to Balboa, C. Z.:							
United States	1	6,073	6,089	8,208	6,184	7,306.80	4,630
From West Indies to United States:							
United States	2	9,598	9,783	12,303	7,586	7,198.50	.....

ATLANTIC TO PACIFIC—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From Cristobal, C. Z., to United States:							
Panaman	1	2,163	2,459	3,404	2,163	$2,703.75	909
United States	1	1,201	1,560	1,974	1,161	1,123.20	.....
Totals	2	3,364	4,019	5,378	3,324	3,826.95	909
From Canada to United States:							
British	1	7,673	7,774	10,825	7,443	5,754.75	.....
From Mexico to United States:							
United States	1	5,593	6,453	8,880	5,543	4,646.16	.....
From Mexico to South America:							
British	1	4,248	4,723	7,335	4,259	5,310.00	9,500
From West Indies to South America:							
United States	2	4,168	4,668	6,713	4,196	3,444.93	.....
From South America to Far East:							
Japanese	1	3,645	4,289	5,790	3,564	4,556.25	1,412
From South America to United States:							
United States	1	3,537	4,901	5,657	3,537	4,421.25	7,182
From West Indies to Canada:							
British	1	3,298	4,487	5,466	3,357	4,122.50	3,000
From Canada to South America:							
British	1	2,551	2,717	4,145	2,566	1,956.24	.....
From Mexico to Central America:							
United States	1	2,536	2,512	3,185	2,489	3,014.40	4,545
From Europe to Central America:							
German	1	2,163	2,753	3,703	2,144	2,703.75	638
From Europe to Mexico:							
German	1	1,783	2,924	2,990	1,757	2,228.75	300
Colombian intercoastal:							
Colombian	1	334	335	864	614	402.00	490
Local, Cristobal to Balboa, C. Z.:							
United States	1	152	152	152	152	114.00	.....
Panaman	1	24	27	40	19	19.44	.....
Totals	2	176	179	192	171	133.44	.....
Totals, March, 1923	233	919,304	1,141,282	1,444,048	911,594	975,665.25	678,488
Totals, March, 1922	138	472,020	586,041	724,316	461,154	580,374.55	581,952
Totals, March, 1921	140	514,468	613,591	784,748	506,842	635,165.10	636,579

PACIFIC TO ATLANTIC.

United States intercoastal:							
United States	71	334,388	397,033	516,647	332,586	$413,340.44	658,267
From South America to Europe:							
Dutch	11	45,914	57,656	72,613	45,999	57,392.50	93,636
British	6	20,854	25,763	34,471	21,019	26,057.50	35,540
German	4	11,748	15,920	18,100	10,783	14,685.00	24,916
Swedish	1	3,338	5,014	5,391	4,048	4,172.50	9,051
Peruvian	1	3,510	3,544	4,763	3,089	4,252.80	5,620
Danish	1	2,815	3,476	4,395	2,795	3,518.75	6,917
Spanish	1	1,896	2,310	3,611	2,784	2,370.00	4,955
Totals	25	90,075	113,683	143,344	90,517	112,459.05	180,635
From South America to United States:							
United States	10	38,936	49,260	65,237	39,010	48,550.30	94,206
British	4	11,448	14,878	18,535	11,567	14,310.00	17,929
Norwegian	2	8,521	9,971	12,309	8,486	10,405.30	18,266
Chilean	2	6,991	9,377	14,578	7,799	8,738.75	10,553
Danish	2	5,362	7,401	7,260	4,551	6,605.70	12,203
Japanese	1	4,357	4,389	5,864	4,259	5,266.80	8,128
Peruvian	1	2,516	3,084	3,830	2,441	3,145.00	5,308
Dutch	1	1,867	1,867	2,007	1,142	2,240.40	3,257
Totals	23	79,998	100,227	129,620	79,255	99,262.25	169,850
From Canada to Europe:							
British	3	11,757	14,491	18,906	11,777	14,696.25	21,799
United States	2	8,910	12,266	14,304	8,972	11,137.50	18,986
Dutch	1	6,083	6,060	7,651	4,796	7,272.00	8,075
Danish	1	3,523	5,660	6,919	5,223	4,402.75	7,728
Japanese	1	4,338	4,704	5,864	4,259	5,422.50	7,500
Totals	8	34,611	43,181	53,644	35,027	42,932.00	64,088

PACIFIC TO ATLANTIC—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From United States to Europe:							
British	6	21,999	26,281	32,073	20,068	$27,498.75	34,697
Norwegian	1	4,523	5,627	7,093	4,479	5,653.75	9,185
Swedish	1	3,430	5,533	5,554	4,425	4,287.50	8,787
Totals	8	29,952	37,441	44,720	28,972	37,440.00	52,669
From South America to Cristobal, C. Z.:							
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	4,572
Chilean	2	3,608	6,250	7,612	4,560	4,510.00	778
British	1	549	884	1,041	615	686.25	580
Colombian	1	334	335	615	373	402.00	487
Norwegian	1	287	307	371	288	221.04	.....
United States	1	31	50	165	157	38.75	115
Totals	9	8,819	16,141	22,470	12,607	10,870.54	6,532
From Canada to United States:							
United States	5	20,300	27,273	32,406	21,010	25,375.00	35,623
From Australasia to Europe:							
British	4	23,462	31,005	37,480	23,871	29,327.50	24,643
From United States to Cristobal, C. Z.:							
United States	2	3,063	3,766	5,143	3,023	3,828.75	3,643
British	1	3,457	4,148	5,562	3,472	4,321.25	7,450
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,332
Totals	4	8,683	10,373	14,109	8,658	10,853.75	12,425
From Far East to United States:							
Japanese	2	9,075	10,986	14,543	8,936	11,343.75	17,150
Norwegian	1	3,605	4,549	5,645	3,544	4,506.25	4,350
Totals	3	12,680	15,535	20,188	12,480	15,850.00	21,500
From Australasia to United States:							
British	2	4,647	7,109	7,744	4,662	5,808.75	4,646
United States	1	4,414	4,442	5,870	4,414	5,330.40	800
Totals	3	9,061	11,551	13,614	9,076	11,139.15	5,445
From United States to Mexico:							
British	2	8,594	9,635	13,694	8,605	10,742.50	16,089
From South America to Mexico:							
British	2	8,614	9,608	14,672	8,545	6,917.76	
From Central America to Cristobal, C. Z.:							
British	2	1,505	1,753	2,576	1,540	1,881.25	1,974
From Central America to United States:							
United States	2	2,638	2,614	3,299	2,529	1,978.50	.....
From United States to South America:							
United States	1	6,228	8,495	10,534	6,195	7,785.00	1,865
From South America to West Indies:							
United States	1	3,649	4,244	5,950	3,677	4,561.25	5,700
From Australasia to Canada:							
British	1	3,273	4,354	5,439	3,331	4,091.25	2,206
From Mexico to Europe:							
German	1	2,524	2,764	3,703	2,144	3,155.00	2,937
Warships:							
Swedish	1	(1)	(1)	(1)	(1)	2,090.00	.....
Totals, March, 1923	176	689,054	846,910	1,088,109	690,625	852,052.19	1,262,440
Totals, March, 1922	96	314,739	389,770	503,655	314,880	376,352.21	378,137
Totals, March, 1921	115	409,841	499,227	632,472	410,599	470,371.45	447,984

[1] Swedish cruiser with displacement tonnage of 4,180 tons.

Sale of the "Olockson."

The steamship *Olockson*, which has been anchored in the Bay of Panama since the latter part of March, 1920, has been sold by the Emergency Fleet Corporation of the United States Shipping Board to the Boston Iron and Metal Company, of Baltimore. She has been brought from her anchorage to Balboa shops and is being prepared for towing to Baltimore. The collier *Ulysses* of the Panama Railroad

Steamship Line is to tow the *Olockson* to Cape Henry, Va., on one of the collier's return voyages to Norfolk. The representative of the purchasing company has also purchased 2,700 tons of scrap metals from The Panama Canal, which will be carried to Baltimore on the *Olockson*.

The *Olockson* caught fire on March 13, 1920, when about 125 miles south of Balboa with a cargo of case oil and gasoline. She was towed back by the Canal tug *Gorgona* and beached in the outer harbor at Balboa so that the fire would be extinguished at high tide. Afterwards she was raised but was never repaired.

Forest Protection Week and Arbor Day—1923.

By the President of the United States of America, A Proclamation—

Whereas, the preservation of our forests, Federal, State, and private, is essential to our industrial and commercial life, to our strength as a nation, and to our individual well-being, and

Whereas, forest fires, which are largely the result of carelessness or thoughtlessness continue to do great damage, threatening to deplete and reduce our forests to the point at which they can not longer serve the nation adequately as a source of timber supply or for watershed protection and recreation, and

Whereas, the annual observance of Arbor Day in the States, and the interest in fire prevention which has resulted from Forest Protection Week heretofore, have done much to awaken the people to the importance both of planting trees and of perpetuating the forests that are already established.

Therefore, I, WARREN G. HARDING, President of the United States, do urge upon the Governors of the various States to designate and set apart the week of April 22–28, 1923, as Forest Protection Week, and wherever practicable and not in conflict with State law or accepted customs, to make Arbor Day fall within the same week; and to urge citizens, teachers, officers of public instruction, commercial and other associations, and the press to unite in thought and effort for the preservation of the nation's forest resources by conducting appropriate exercises and programs and by publishing information pertaining to the waste from forest fires and ways of preventing or reducing such losses, in order that our forests may be conserved for the inestimable service of mankind.

In Witness Whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this fifth day of March, in the year of our Lord one thousand nine hundred and twenty-three, and of the Independence of the United States of America the one hundred and forty-seventh.

[SEAL]

WARREN G. HARDING.

By the President:

CHARLES E. HUGHES,

Secretary of State.

[No. 1656.]

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending April 7, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo.	
				Discharged	Laded.
				Tons.	*Tons.*
Marinula	Anglo-Saxon Petroleum Co.	April 1	April 2	8,590	
Manavi	Pacific Steam Navigation Co.	April 2	April 2	5	
Jadden	Tampa Interocean S. S. Co	April 4	April 5	147	
Ecuador	Pacific Mail Steamship Co.	April 5	April 5	46	
Darien	A. B. Obarrio & Co.	April 5	April 5	10	

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending April 7, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Puerto Rico	French Line		March 18		628
Orcoma	Pacific Steam Navigation Co	March 18	March 19	192	3
Cristobal	Panama Railroad Steamship Line		March 19		3,247
Atenas	United Fruit Co	March 18	March 20	(1)	196
Salvador	Pacific Steam Navigation Co	March 19		874	
Santa Elisa	Grace Line	March 19	March 19	33	(2)
Balboa	Compania Costancia de Colombiana	March 19	March 20	23	50
Eupatoria	Hamburg-American Line	March 19	March 20	304	½
H. M. Flagler	Standard Oil Co	March 19	March 20	850	(2)
Darien	Pacific Metals Corporation	March 19	March 21	115	(2)
Pennsylvania	Texas Oil Co	March 19	March 21	9,600	(2)
Heredia	United Fruit Co	March 20	March 22	1,274	1,121
Lubeck	Kosmos Line	March 20	March 20	10	(2)
Ucayali	Peruvian Line		March 20		293
Alvarado	Pacific Steam Navigation Co	March 21	March 22	72	327
Carrillo	United Fruit Co	March 21	March 22	22	289
Balboa	Johnson Line	March 22	March 23	(1)	54
Ulua	United Fruit Co	March 23	March 24	350	114
Hermes	Royal Netherlands W. I. Mail	March 23	March 24	305	152
Conia	Shell Oil Co	March 24		7,760	
San Benito	United Fruit Co	March 24	March 24	12½	67
Urubamba	Peruvian Line	March 24		1,781	
San Francisco	Johnson Line	March 24		42	
Panama	Panama Railroad Steamship Line	April 1		1,578	
Gamble	Scott Brothers	April 1		431	
Abangarez	United Fruit Co	April 1	April 2	(1)	938
Urubamba	Peruvian Line	April 1	April 2	(1)	356
Ebro	Pacific Steam Navigation Co	April 1	April 2	261	5½
Speaker	Harrison Line	April 2	April 2	643	(2)
Santa Luisa	Grace Line	April 2	April 2	6	(2)
Garfield	Grace Line	April 2	April 3	11	55
Acajutla	Pacific Steam Navigation Co	April 2		1,084	
Cauca	Pacific Steam Navigation Co	April 2	April 4	1,129	(2)
Manavi	Pacific Steam Navigation Co	April 2	April 7	410	726
Eupatoria	Hamburg-American Line	April 3	April 3	306	88
Ansaldo San Giorgio I.	Societa Nazionale di Navigazione	April 3	April 4	84	(2)
Cartago	United Fruit Co	April 3	April 5	735	65
Calamares	United Fruit Co	April 3	April 4	332	292
Tivives	United Fruit Co	April 4	April 5	(1)	5¾
Metapan	United Fruit Co	April 4	April 5	28	525
Honduras	French Line	April 4	April 5	82	(2)
Ganymedes	Royal Netherlands W. I. Mail	April 5	April 7	302½	691
Abangarez	United Fruit Co	April 5	April 5	10	84¼
Ecuador	Pacific Mail Steamship Co	April 6	April 7	804	331
Darien	A. B. Obarrio & Co	April 6		68	
Balboa	Compania Costancia de Colombiana	April 6		520	
Laura C. Hall	Pacific Metals Corporation	April 6	April 7	48	64
Essequibo	Pacific Steam Navigation Co	April 7	April 7	5	(2)
San Blas	United Fruit Co	April 7		40	(2)
Huallago	Peruvian Line	April 7		1,372	
Zenon	French Line	April 7		100	

[1] No cargo discharged. [2] No cargo laded.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended April 7:

Steamships *Acajutla*, renewals of 3 pins in steering gear guide pulleys; mosquito netting in wireless cabin; repairs to ventilator in steward's room; guardplate over steam pipe in No. 2 winch; ship's side port in steward's storeroom; 1 swivel cargo hook; 2 lifeboat bread tanks; manufacture 1 white metal bushing for refrigerating engine connecting rod; 12 zinc plates; 3 tarpaulins; stove; remake 4 mattresses; caulk fuel oil tank; furnish diver to clear main injection; furnish temporary lights; *Cauca*, repair main engine water service pipe; *Manavi*, renew oil pipe for H. P. crank pin brasses; face up Wier pump suction valve seats and overboard discharge valve seats; repairs to 2 oil cans; 4 hand lamps; 5 chisels; 1 drill; wood sheathing in officers' rooms; door bolts and mosquito nettings in 9 staterooms; 2 lifeboat blocks; firing tools and tube brush; skids in after hold and secure skids in fore hold; manufacture 2 packing screws; 2 canvas cargo slings; *F. H. Hillman*, repair telemotor; *Hazel Branch*, straighten eccentric rod; *Balboa*, rewood 2 winches; *Darien*, renew

fender; *Huallaga*, main feed pump liner to be tinned and fitted; repairs to damaged pump rods; 4 life boat small oil tanks; 4 gin blocks; iron hatch skid; repair or renew 3 life boat bread cans; manufacture L. P. port column; *Van Rensseler*, minor repairs. U. S. mine planter *Graham*, dry dock, clean and paint; furnish lights and fresh water; manufacture and install piston valves on reversing engines; 2 sets piston rings, piston valve and rod, 1 set of cross head brasses, 1 wrist pin for circulating engine; piston rings for both cylinders and clutch casting for steering engine; piston rings for both cylinders for starboard fuel feed pump; piston rings for both cylinders and new plungers in both oil cylinders in port fuel feed pump; piston rings in both cylinders in fresh water pump, piston rings in both steam cylinders of sanitary pump; copper pipe main feed water line to main boilers; pistons, 2 sets of rings and 1 cross-head for feed pumps; repair and paint sea chests, repair strainers, valves, stern frames, etc.; supply boat *No. 2*, engine repairs; barge *No. 104*, dry dock, clean and paint; necessary renewals of hinges, renew 2 A-frame braces and reinforce with channel iron; patch 2 deck plates.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 11, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.27
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.24
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.50
Oil, ammonia, cylinder	Gal.	.36
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.50 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Postal Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m. and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity..... $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Official Circular.

Radio Receiving Sets.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., March 31, 1923.

To all concerned:

1. Radio receiving sets will be allowed in the Canal Zone under the following regulations which will govern their installation and operation:

(*a*) The owner of each receiving set must obtain permission for its installation from the Governor of The Panama Canal.

(*b*) In order to obtain the above permission, each applicant will be required to give an accurate description of his receiving apparatus and the exact location of his antenna.

(*c*) All sets must be available for periodical inspections by a representative of the Governor of the Canal Zone at such times as he may direct.

(*d*) All sets must be equipped with a lightning switch of at least 100 amperes capacity or its equivalent, and the entire installation must conform to fire and insurance laws of the Canal Zone. (The lightning switch referred to is a switch by means of which the antenna can be disconnected from receiving set and connected directly to the ground.)

(*e*) Permission for operation will consist of a standard printed permit, which shall at all times be displayed in the vicinity of the receiving set. This permit will be issued by the Executive Office on recommendation of the Electrical Engineer after the set is installed, and has been inspected and passed by a representative of the Electrical Engineer. A charge of $2.50 shall be made for this service but need not be remitted until the installation is ready for inspection.

(*f*) All sets must be installed and operated so as to give the minimum of interference.

2. The right is reserved to rescind the permission given for installation at any time circumstances require, and in time of war to recall all sets.

3. The penalty for violation of any of the above rules will be the withdrawal of permission to operate receiving sets.

4. The penalty for operating sets without permission will be confiscation.

JAY J. MORROW,
Governor.

Sale of Unclaimed Cargo.

ANCON, C. Z., April 10, 1923.

In accordance with an order signed by the Judge of the United States District Court for the Canal Zone, April 7, 1923, there will be sold at public sale at the Receiving and Forwarding Agency of the Panama Railroad Company in Cristobal on June 4, 1923, two consignments of chinchona bark of a total of 70,000 pounds, more or less, samples of which may be obtained from the Receiving and Forwarding Agent.

Samples of the bark recently tested have analysed 2½ per cent alkaloid but the purchaser must take it "as is" without reference to later analyses.

This bark will be sold for the recovery of storage charges that have accrued against it.

S. W. HEALD,
Superintendent Panama Railroad Co.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 448.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
April 2	Speaker	Harrison Line	Liverpool via wayports.
April 3	Calamares	United Fruit Co.	New York via wayports.
April 3	Eupatoria	Hamburg-American Line	Puerto Barrios.
April 3	Cartago	United Fruit Co.	New Orleans via wayports.
April 3	U. S. S. Fulton	U. S. Navy	Philadelphia.
April 4	Metapan	United Fruit Co.	New York via Kingston.
April 4	Tivives	United Fruit Co.	Colombian ports.
April 4	Abangarez	United Fruit Co.	Bocas del Toro.
April 5	San Blas	United Fruit Co.	Boston via Port Limon.
April 7			

*DEPARTURES.

Date.	Vessel.	Line.	For—
April 3	Ulysses	Panama Railroad Steamship Line	Norfolk.
April 3	Eupatoria	Hamburg-American Line	Cartagena.
April 4	Calamares	United Fruit Co.	Port Limon.
April 5	Metapan	United Fruit Co.	Colombian ports.
April 5	Tivives	United Fruit Co.	New York via Kingston.
April 5	Cartago	United Fruit Co.	New Orleans via wayports.
April 5	Abangarez	United Fruit Co.	New Orleans.
April 8	San Blas	United Fruit Co.	Boston.

PORT OF BALBOA.

Date.	Vessel.	Line.	For—
March 4	Los Amigos*	J. Z. Goldberg	San Miguel.

*Other than ships passing through the Canal.

*Yacht.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., April 18, 1923. No. 36.

Commodities Shipped Through the Panama Canal in 1922.

Classification of the cargo carried through the Canal during the calendar year 1922 is presented in the following tables. These statistics were compiled from cargo declarations and manifests submitted by the masters of vessels, and while it was impossible to secure in detail a classification of all cargo, they are indicative of the kind and quantity of the leading commodities transported via the Canal.

ATLANTIC TO PACIFIC.

The following shows the more important items of cargo moving from the Atlantic to the Pacific via the Canal in 1922 as compared with the preceding year:

	1922.	1921.
Manufactures of iron and steel	1,376,202	697,210
Mineral oils	1,107,497	1,361,495
Coal	386,922	539,536
Metals	194,244	96,285
Railroad material	186,117	85,187
Sugar	160,074	93,041
Machinery	120,856	83,757
Sulphur	107,882	108,415

As compared with the preceding year, cargoes of iron and steel showed the most pronounced gain, while coal and mineral oils showed the greatest falling off. Shipments of raw cotton fell slightly under 100,000 tons and were only half as great as during 1921.

Of the manufactures of iron and steel covered by the 1922 statistics 90 per cent were exported from the east coast ports of the United States, and of the 600,000 odd tons of new business 319,000 went to the west coast of the United States, 197,000 tons to the Far East, and 30,000 to Australasia.

The mineral oil figures, since both crude and refined oil are included in the one total, fail to indicate the very radical change in the conditions of this trade. Crude oil shipments from the east coast of Mexico declined from 766,756 tons in 1921 to 378,928 tons in 1922, but shipments of refined petroleum from the east coast of the United States to the Far East and Australasia increased from 461,085 to 627,317 tons, thus partially balancing the loss on the crude oil.

Of the net increase of 101,000 tons in railroad material the United States exported 67,000 tons and Europe, including the British Isles, 28,500. The Far East took 54,000 tons more than in 1921, the west coast of the United States 24,000 more, and the west coast of South America 22,000 more.

The increase in machinery shipments is due primarily to the growth of the intercoastal trade and in lesser degree to an increase in exports to the Far East.

The 67,000 odd tons of additional sugar westward-bound represents shipments from Cuba to the Far East and western Canada.

PACIFIC TO ATLANTIC.

The principal commodities moving from the Pacific to the Atlantic during 1922 as compared with the preceding year, were as follows:

	1922.	1921.
Lumber	1,121,705	448,087
Nitrate	992,086	991,767
Wheat	772,443	914,877
Mineral oils	748,493	212,812
Canned goods	459,140	273,661
Ores, various	441,035	111,829
Barley	357,752	435,481
Sugar	277,280	270,952
Metals	144,646	154,542
Wool	143,292	107,075
Cold storage food products	108,584	297,084

As compared with the preceding year, shipments of lumber, ores, and mineral oils more than doubled, while canned goods also showed a large increase. Shipments of wheat, barley, and cold storage food products show a decline from the preceding year, while shipments of nitrate, sugar, metals, and wool show but little change.

The very notable increase in lumber shipments is a natural development. There is a growing demand in the eastern states for Pacific coast lumber, which can be moved more economically by water than by rail. All that was required to attract this business to the Canal was sufficient tonnage and adequate terminal facilities on the Atlantic seaboard, which have now been provided.

While the nitrate figures are approximately the same for 1922 as for 1921, shipments have not been at a uniform rate during the entire period. A serious slump in the exports from Chile began in March, 1921, and continued for a year. In March, 1922, the figures began to climb again, and the trade is now back on a normal basis, with shipments aggregating from 150,000 to 200,000 tons a month.

As production fell off in the Mexican oil fields, the eastern refineries and depots began to draw on California. Shipments on a large scale did not start until September, 1922, but they have been very heavy and are increasing rapidly. Crude oil has also been shipped from the west coast of South America since November, 1921, at the rate of about 15,000 tons a month. There were also shipments of refined oil from the west coast of the United States aggregating 113,281 tons in 1922, and from the west coast of South America aggregating 14,737 tons. Of this refined oil, 74,799 tons went to the British Isles.

The entire Hawaiian sugar crop is now refined in California, and there has been no Hawaiian sugar shipped through the Panama Canal since January, 1922; but this has been offset by increased shipments from the west coast of South America and from the Far East.

The falling off in cold storage food products is due apparently to the fact that much frozen meat from Australia and New Zealand formerly shipped via Panama to Great Britain has been diverted to alternative routes.

Details of the origin and distribution of commodities, by trade areas, are presented in the tables on pages 464 to 472 inclusive. (Tables showing a similar classification for 1921 may be found in Issue No. 27, of Volume XV, of THE PANAMA CANAL RECORD.)

April Tolls Establish New High Record for First Fifteen Days.

An average of 13.4 commercial vessels transiting the Canal daily and paying $62,843.72 per day in tolls, for the first 15 days in April, establishes a new half-month's traffic record.

The month-to-month increase in Canal traffic is shown by the following statement, which gives the aggregate traffic and daily average traffic for the first 15 days of each month during the current fiscal year:

1922–1923.	First 15 days of month.		Daily average.	
	No. of ships.	Tolls.	No. of ships.	Tolls.
July	117	$508,529.64	7.8	$33,901.98
August	134	538,265.51	8.9	35,884.37
September	134	549,693.61	8.9	36,646.24
October	142	595,306.04	9.5	36,987.05
November	154	654,582.53	10.3	43,639.47
December	154	691,626.01	10.3	46,108.40
January	156	650,373.60	10.4	48,557.60
February	[1] 161	[1]698,652.43	11.5	49,903.74
March	208	935,608.06	13.9	62,373.87
April	201	942,612.47	13.4	62,840.83

[1] 14 days only.

Tolls for the first 15 days of April lacked only $10,600.34 of equaling the tolls for the entire month of April a year ago, and exceeded the entire month's tolls for April of any year prior to 1922.

The daily average traffic for the month of April for the past several years is shown by the following:

	Daily average.	
	No. of transits.	Tolls.
April, 1923	[1] 13.4	[1] $62,840.83
April, 1922	7.7	31,775.20
April, 1921	7.6	30,933.24
April, 1920	7.3	26,852.28
April, 1919	5.4	16,206.60

[1] First 15 days only.

In addition to the 201 commercial vessels transiting the Canal during the first half of April, 12 launches and miscellaneous craft passed through the Canal on which additional tolls of $43.30 were collected.

"Favorite" Delivers "Pennsylvania" at Mobile.

The Panama Canal salvage steamer *Favorite*, which left Cristobal on March 24, to go to the assistance of the Texas Company's tanker *Pennsylvania*, aground on Quita Sueño Bank, and pulled the vessel off the bank in the morning of March 28, has delivered the *Pennsylvania* to the repair shop at Mobile and is returning to the Canal. The *Favorite* left Mobile on April 16 and is expected to reach Cristobal the latter part of this week.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 14, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Merope	7	17.37	8	6.25	8	15.38	8	20.55	French	Comp. Auxiliare de Nav	424.6	56.6	18.0	Marseilles	San Francisco	Ballast		7,080	4,909
Patuxent [1]			8	6.30	8	16.33			American	U. S. Navy	156.0	29.0		Cristobal	Balboa				
Agwiworld	7	21.40	8	7.30	8	16.31	8	22.30	American	Atl. Gulf & W. I. S. S. Co	429.3	59.2	19.6	Boston	Los Angeles	Ballast		7,552	5,398
Commercial Trader	8	4.50	8	8.03	8	17.41	8	19.00	American	Moore & McCormack, Inc	399.0	51.0	25.6	New York	Seattle	General, coal	6,430	6,190	4,455
Chas. H. Cramp	8	5.42	8	8.45	8	18.40	9	1.55	American	Argonaut Steamship Co	404.0	53.9	28.6	Baltimore	San Francisco	Steel products	8,427	6,755	4,750
Tottori Maru	8	6.30	8	9.12	8	19.32	8	20.35	Japanese	Nippon Yusen Kaisha	422.0	55.0	25.0	New York	Japan	General	8,833	6,444	4,667
Balboa	6	16.45	8	9.55	8	19.57	8	20.55	Colombia	Cia Costancia del Colombiana	190.0	29.1	10.6	Cristobal	Buenaventura	General	38	737	335
Swiftarrow	8	7.53	8	10.23	8	21.10	9	3.00	American	Swiftsure Oil Transport. Co	465.0	60.0	21.0	Philadelphia	Los Angeles	Ballast		8,473	6,050
Hanover	8	9.20	8	11.10	8	22.03	8	23.20	American	Tampa Interocean Co. (S. B.)	434.0	57.0	27.6	Galveston	Yokohama	General	7,594	7,982	5,911
Canoe			8		8				American	Lieut. M. C. Miller				Cristobal	Balboa	Ballast		1	1
Roman Prince	8	12.00	9	6.15	9	14.18	9	15.30	British	Prince Line	420.0	54.0	26.5	New York	Hakodate	General	7,770	6,719	5,110
San Florentino	8	16.35	9	7.33	9	19.51	9	21.16	British	Eagle Oil Transportation Co	530.4	68.0	30.6	Tampico	Valparaiso	Fuel oil	15,929	13,067	9,124
Gerfrid	8	20.12	9	8.00	9	18.31	9	19.48	German	Roland Line	410.0	48.0	19.0	Antwerp	Corral	General	2,450	5,105	3,601
Wabash	8	11.07	9	8.30	9	21.15	9	22.30	American	Nawsco Line	381.0	49.9	26.0	Portland	Los Angeles	General	4,324½	5,825	4,152
Frederic Ewing	8	22.05	9	9.10	9	21.54	9	23.00	American	Pan-American Petroleum Co	435.0	56.0	21.0	Boston	Los Angeles	Ballast		7,465	5,176
W. C. Teagle	9	0.05	9	10.04	10	0.40	14	0.30	American	Standard Oil Co	499.1	68.2½	16.6	Baltimore	Los Angeles	Ballast		10,991	7,908
Nordfarer	9	9.00	9	10.30	10	1.40	10	3.00	Danish	Peter Brown	364.0	47.0	22.0	New York	Antofagasta	General, coke	3,388	4,289	3,106
Alm	8	17.05	9	10.35	10	2.02	10	3.10	Norwegian	T. Laddings	260.2	36.9	12.0	Norfolk	Guayaquil	Ballast		1,675	1,183
City of Pittsburg	9	6.45	9	12.05	9	22.58	10	0.05	British	Ellerman Lines	465.7	58.6	26.0	New York	Yokohama	General, steel	8,698	9,660	7,415
Wasgenwald	9	12.30	9	12.45	9	23.58	10	1.32	German	Hamburg-American Line	399.7	54.0	22.0	Hamburg	Guayaquil	General	3,437	6,536	4,516
S. M. Spalding	9	19.20	10	6.25	10	14.11	10	15.10	American	Pan-American Petroleum Co	435.0	56.0	19.6	New York	Los Angeles	Ballast		7,331	5,080
Margaret Coughlan	9	20.20	10	7.33	10	15.40	10	19.39	British	Canadian Western S. S. Co	411.5	54.1	23.6	New York	Vancouver	Sugar	7,563½	6,624	4,999
Geo. H. Jones	9	23.50	10	8.05	10	16.23	10	17.28	American	Standard Oil Co	429.3	59.2	21.0	Baton Rouge	Los Angeles	Ballast		7,689	5,286
Tamaha	10	5.20	10	8.40	10	18.00	10	20.15	British	Standard Transportation Co	420.5	54.4	28.0	Tampico	Tocopilla	Crude oil	8,450	6,673	4,689
J. W. VanDyke	10	6.55	10	9.25	10	18.40	10	19.52	American	Atlantic Refining Co	435.0	56.0	20.0	Philadelphia	Los Angeles	Ballast		7,460	5,215
Shreveport	10	9.35	10	10.05	10	19.35	10	20.37	American	Walker & Daly (S .B.)	435.0	56.0	21.0	Mobile	Los Angeles	Ballast		7,411	5,103
S. V. Herkness	10	6.45	10	11.48	10	20.31	10	21.39	American	Standard Oil Co	419.0	57.2	16.0	Guantanamo	Los Angeles	Ballast		7,220	4,913
Venezuela	9	23.55	10	12.17	10	21.10	11	23.10	American	Pacific Mail Steamship Co	395.0	48.6	24.5	New York	San Francisco	General	2,600	6,033	4,353
Gen. G. W. Getty [2]	9		10	6.45					American	U. S. Army				Cristobal	Pedro Miguel				
Ares	10	0.40	11	6.08	11	13.52	11	20.50	Dutch	Royal Netherlands W. I. Mail	340.0	48.0	17.10	Antwerp	Guayaquil	General	2,714	4,385	3,195
Trevithick	11	6.37	11	7.20	11	15.32	11	17.05	British	Hain Steamship Co	469.0	58.1½	22.0	Newport News	Brisbane	General	5,501	8,772	6,461
Canadian Ranger	11	6.48	11	8.03	11	17.53	11	19.24	British	Canadian Govt. Mer. Marine	400.0	52.5	19.0	New London	Auckland	General	4,000	5,879	4,121

[1] Tug.

[2] Mine planter.

Frederic R. Kellogg	11	6.55	11	8.52	11	18.26	11	19.19	American	Pan-American Petroleum Co	425.8	57.0	20.5	Galveston	Los Angeles	Ballast		7,178	4,963
Camden	11	7.18	11	9.12	11	19.13	11	19.59	American	United Fruit Co	419.5	56.5	19.6	Bocas del Toro	Los Angeles	Ballast		6,977	4,959
Mineola	11	3.47	11	10.03	11	19.58	12	16.00	American	Grace Line	298.6	40.0	17.8	New York	Pto. Chicama	General	2,069	2,835	1,805
Eurydamas	11	7.06	11	11.35	11	20.52	11	21.50	British	Alfred Holt & Co	409.3	49.0	25.0	Glasgow	Seattle	General	6,430	5,718	4,189
Bjornstjerne Bjornson	11	12.17	11	12.25	11	21.40	11	22.40	Norwegian	Olaf Orvig	410.0	54.0	16.0	Newport News	Tocopilla	Ballast		6,304	4,752
Ramapo [3]	10	9.08	12	6.18	12	14.18	16	17.05	American	U. S. Navy	476.0	60.0	21.0	Port Arthur	Balboa	Ballast			
Melville Dollar	11	17.49	12	7.25	12	15.58	12	19.30	American	Dollar Line	429.0	55.0	27.0	Baltimore	Los Angeles	General	8,100	7,581	5,519
Santa Elisa	11	19.00	12	7.50	12	17.17	12	18.29	American	Grace Line	360.3	51.7	23.0	New York	Talcahuano	General	2,632	5,957	4,325
Bradford City	11	22.10	12	8.47	12	19.24	12	20.40	British	St. Just Steamship Co	400.0	52.3½	26.6	Pensacola	Auckland	Case oil, general	7,173	5,805	4,077
Yorba Linda	12	2.40	12	9.30	12	20.04	12	20.58	American	General Petroleum Co	435.0	56.2	21.0	Boston	Los Angeles	Ballast		7,424	5,077
K. I. Luckenbach	12	0.35	12	10.10	12	21.19	13	3.00	American	Luckenbach Line	446.0	56.0	30.0	New Orleans	Los Angeles	General	9,000	8,552	6,236
Easterner	12	2.00	12	10.30	12	22.06	12	23.24	American	U. S. & A. Line (S. B.)	385.0	51.0	23.10	New York	Adelaide	General	4,200	5,945	4,561
Calcutta Maru	12	5.56	12	11.00	12	22.47	12	23.57	Japanese	Nippon Yusen Kaisha	400.0	54.0	24.3	New York	Takao	General	6,282	5,790	4,183
Rotorua	12	7.00	12	11.50	12	23.48	13	20.02	British	New Zealand Shipping Co	526.0	61.4	25.6	London	Wellington	General	7,922	12,846	9,439
Imperial	8	16.06	12	12.22	13	0.18	13	1.25	Chilean	Chilean Line	336.8	41.2	23.7	Cristobal	Valparaiso	General	886	3,296	2,156
President Hayes	11	23.10	13	6.13	13	15.16	14	1.40	American	Swayne & Hoyt (S. B.)	502.1	62.2	31.5	Buenos Aires	San Francisco	(4)	6,700	12,023	8,443
W. W. Mills	12	20.55	13	7.13	13	16.00	13	21.25	American	Pine Oil Co	424.0	53.0	19.6	Philadelphia	Los Angeles	Ballast		7,333	5,119
Mojave	12	21.05	13	8.05	13	17.04	13	18.08	American	General Petroleum Co	435.0	56.2	21.0	St. Rose	Los Angeles	Ballast		7,434	5,066
Montrose	12	21.25	13	8.55	13	18.00	13	19.05	British	Trinder Anderson	365.0	48.0	22.9	New Orleans	Auckland	General	3,700	4,689	3,441
Norden	12	4.50	13	9.07	13	18.43	13	19.45	Danish	Peter Brown, Jr	318.0	47.3	17.2	New Orleans	Talcahuano	General	2,240	3,357	2,562
A. C. Bedford	12	23.07	13	9.30	13	19.31	13	20.47	American	Standard Oil Co	500.0	68.0	19.0	New York	Los Angeles	Ballast		10,896	7,615
Parana	12	14.19	13	10.00	13	20.31	13	21.50	Danish	Orient Steamship Co	397.0	57.0	27.0	Antwerp	Los Angeles	General	8,351	7,088	5,219
Solana	11	20.30	13	10.25	13	21.16	14	4.30	American	Pacific Mail Steamship Co	435.0	56.6	17.0	Tampico	Los Angeles	Ballast		7,060	5,025
Middlesex	13	8.12	13	12.00	13	22.44	14	10.12	British	Federal Steam Navigation Co	459.4	62.8	28.0	Liverpool	Auckland	General	9,347	10,600	7,613
James McGee	13	14.25	14	6.25	14	13.36	14	14.51	American	Standard Oil Co	499.1	68.2	19.0	New York	Los Angeles	Ballast		10,964	7,909
A. L. Kent	13	19.12	14	7.02	14	15.24	14	18.19	American	Crowell & Thurlow	394.0	55.1	24.6	Baltimore	Los Angeles	General	7,746	7,047	5,030
Acajutla	2	15.35	14	8.55	14	16.30	14	18.12	British	Pacific Steam Navigation Co	215.0	33.5	16.0	Cristobal	Champerico	General	841	1,273	706
Newport	9	23.35	14	8.45	14	16.43	15	2.00	American	Pacific Mail Steamship Co	326.0	38.2	17.5	Cristobal	San Francisco	General		3,173	2,163
American Star	14	5.53	14	9.51	14	18.43	15	13.28	American	American Star Line	386.8	52.2	19.6	New York	San Francisco	General	4,848	5,699	4,148
Santa Clara	14	6.10	14	10.20	14	20.48	15	1.15	American	Atlantic & Pacific Steamship Co	494.6	53.9	23.2	Baltimore	Los Angeles	General	5,766	6,769	4,450
Orita	14	5.31	14	12.17	14	21.20	15	0.19	British	Pacific Steam Navigation Co	502.0	58.2	23.8	Liverpool	Valparaiso	General	2,934	9,936	6,561

[3] Tanker.

[4] Cold storage, linseed, hides, coffee, and fertilizer.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Pennsylvania Sun	7	14.55	8	7.21	8	14.35	8	14.35	American	Sun Oil Co	480.5	66.0	26.9	Los Angeles	Philadelphia	Gasoline	12,372	9,325	6,303
Edgemoor	7	17.30	8	7.51	8	15.55	9	9.00	American	U. S. Army	409.6	54.2	14.2	Honolulu	New York	Army supplies	1½	7,486	5,852
Imperial	8	7.00	8	8.57	8	16.06	12	12.22	Chilean	Chilean Line	336.8	41.2	19.0	Valparaiso	Cristobal	General	134	3,296	2,156
Manchester Civilian	8	8.30	8	10.10	8	18.38	8	20.10	British	Ardmore Steamship Co	385.0	52.0	23.8	Antofagasta	United States	Nitrate	7,312	5,302	3,772
Dinteldijk	8	10.30	8	10.08	8	19.10	8	20.00	Dutch	Holland-Amerika Line	485.0	62.0	29.0	Vancouver	Rotterdam	General	9,723	10,786	7,551
Almelo	8	7.32	8	12.51	8	21.27	9	15.40	Dutch	Royal West India Mail Co	440.0	62.6	27.0	Valparaiso	Hamburg	General	9,705	9,403	6,653
Byron D. Benson	8	18.00	9	6.51	9	15.02	9	15.02	American	Tidewater Oil Co	465.4	60.2	27.8	Los Angeles	New York	Crude oil	10,000	8,546	6,095
Tsuyama Maru	9	7.25	9	7.40	9	16.05	9	18.20	Japanese	Nippon Yusen Kaisha	445.0	58.0	22.0	Yokohama	New York	General	7,963	7,651	5,425
Trontolite	9	1.00	9	8.30	9	19.50	9	22.40	British	Imperial Oil Co	420.8	57.0	27.0	San Pedro	Halifax	Crude oil	9,952	7,240	4,713

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross	Net.
Montauk	9	2.00	9	8.51	9	19.49	9	19.49	American	Luckenbach Line	419.5	56.5	23.0	Portland	Boston	General, lumber	5,800	8,690	6,316
Standard	9	7.30	9	10.50	9	21.22	9	21.22	American	Standard Oil Co	524.0	69.0	30.0	San Pedro	New York	Crude oil in bulk	16,500	12,171	8,673
S. B. Hunt	9	8.00	9	11.48	9	22.30	9	22.30	American	Standard Oil Co. of N. J.	429.3	59.2	26.6	San Pedro	New York	Crude petroleum	10,500	7,652	5,448
Newport	9	14.00	9	14.50	9	23.35	14	8.45	American	Pacific Mail Steamship Co	326.0	38.2	17.8	San Francisco	Cristobal	General	1,150	3,173	2,163
Hoven	9	10.30	9	14.58	10	0.25	10	0.25	American	Walker & Daly	434.8	56.2	26.0	San Pedro	New York	Fuel oil	9,661	7,426	5,144
Great City	9	22.00	10	7.39	10	15.40	10	16.44	British	W. R. Smith & Sons	420.0	57.0	26.0	Vancouver	H'mpton Rds[6]	Wheat	9,900	7,029	5,478
Jose	10	6.30	10	8.41	10	17.10	11	7.20	Peruvian	Luis Liano	343.0	45.0	22.6	Mejillones	Azores[6]	Nitrate	5,018	2,697	2,341
Samuel Q. Brown	10	2.00	10	9.51	10	17.30	10	17.36	American	Tidewater Oil Co	424.4	58.2	25.6	San Pedro	New York	Crude oil	10,000	7,333	5,246
Agwibay	10	2.30	10	12.49	10	21.5[illegible]	10	21.57	American	New York & Cuban Mail	468.3	62.7	28.0	San Pedro	New York	Oil, crude oil	12,600	9,776	6,942
Pennyworth	10	17.30	11	6.51	11	14.27	11	14.27	British	R. S. Dagliesh, Ltd	410.2	53.5	26.0	Gatico	New York	Copper ore	7,875	6,179	4,387
Japan Arrow	11	0.45	11	8.06	11	15.55	11	15.55	American	Standard Transportation Co	468.3	62.7	26.8	San Pedro	New York	Crude oil	12,430	10,084	7,485
J. C. Donnell	11	8.20	11	9.08	11	16.42	11	16.42	American	Atlantic Petroleum Co	500.0	68.2	28.0	San Pedro	Philadelphia	Crude oil	15,664	10,435	7,900
Walter Jennings	11	10.25	11	11.25	11	20.45	11	20.45	American	Standard Oil Co	499.2	68.1	31.0	San Pedro	Charleston	Crude oil	16,100	11,037	7,995
Santa Rosa	11	10.20	11	11.41	11	21.28	11	21.28	American	Pacific Mail Steamship Co	404.6	54.0	27.6	Port Angeles	New York	(7)	8,141	6,754	4,780
New Britain	11	17.35	12	6.44	12	15.15	12	15.15	American	Black Diamond Steamship Co	386.8	52.2	23.6	Gray's Harbor	New York	Lumber	5,400	5,684	4,082
Californian	12	0.30	12	7.52	12	16.25	12	16.25	American	American-Hawaiian Line	445.1	59.8	27.0	Seattle	Philadelphia	General	8,000	8,567	6,020
Wheaton	12	0.03	12	8.50	12	16.50	12	16.50	American	A. E. Mittnacht,	415.0	53.7	25.8	Vancouver	Baltimore	General[8]	3,466	7,060	4,904
Elmpark	12	3.00	12	9.33	12	19.25	12	21.45	British	Pacific Steam Navigation Co	409.0	53.5	26.6	Valparaiso	Hull	General	8,055	6,565	4,728
Juneau	11	20.40	12	10.57	12	19.55	12	23.20	American	Sullivan Steamship Co	244.0	43.2	18.0	Everett	New York	Lumber	2,790	2,544	1,927
Harry Luckenbach	12	11.20	12	12.36	12	21.49	12	21.49	American	Luckenbach Line	448.9	60.2	29.0	Portland	New York	General, lumber	7,800	9,262	6,853
Borgstad	12	4.00	12	13.58	12	22.58	12	22.58	Norwegian	Fearnley & Eger	385.1	52.0	26.0	Cruz Grande	Baltimore	Iron ore	7,500	5,843	4,288
Cape May	12	17.00	13	7.04	13	14.04	13	17.23	American	United States & Australian Line	415.0	53.7	21.0	Adelaide	New York	General	3,000	7,072	4,944
J. A. Moffett, Jr	12	20.00	13	8.25	13	16.50	13	16.50	American	Standard Oil Co	499.2	68.0	30.6	San Pedro	New York	Oil	15,000	11,037	7,995
Wm. Penn	13	2.10	13	8.40	13	17.10	13	17.10	American	Barber Line	439.6	60.2	27.0	Shanghai	New York	General[9]	9,624	9,019	6,226
Santa Teresa	13	5.00	13	9.52	13	18.03	13	21.17	American	Grace Line	360.2	51.6	22.8	Talcahuano	New York	General	4,182	5,726	4,086
Gargoyle	13	14.00	14	7.06	14	14.46	14	16.00	American	Vacuum Oil Co	425.0	57.2	27.0	San Francisco	Philadelphia	Lubricating oil	10,058	7,510	4,989
Cerro Azul	14	0.40	14	8.12	14	15.30	14	15.30	American	Pan-American Pet. & Transp. Co	480.5	66.0	28.6	San Pedro	New Orleans	Crude oil	13,257	9,398	6,453
Robin Gray	13	17.30	14	10.36	14	18.37	14	18.37	American	Seas Shipping Co	424.8	55.2	24.0	Seattle	Boston	Lumber, ore	7,750	7,472	5,542
Agwimex	14	11.15	14	15.20	14	22.46	14	22.46	American	Ward Line	480.5	66.0	28.0	San Pedro	Philadelphia	Crude oil	13,430	9,394	6,325
G. Harrison Smith[5]	13	21.30	14	15.48	14	20.15	....	.....	British	International Petroleum Co	550.3	72.2	33.0	Cruz Grande	Culebra Cut	Iron ore	20,600	15,470	11,102

[5] Tied up at Culebra Cut for repairs. [6] For orders. [7] Lumber, copper, and general. [8] 70 tons gas tugs on deck. [9] Sugar, hemp, copra, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

MOVEMENTS OF OCEAN VESSELS—Continued.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
April 8	Camden	United Fruit Co	Tampico.	April 8	Calamares	United Fruit Co	New York via Habana.
April 8	Atenas	United Fruit Co	New Orleans via Habana.	April 9	Gamble [10]	Fife Steamship Co	Mobile, Ala.
April 8	Calamares	United Fruit Co	Port Limon.	April 9	Camden	United Fruit Co	Bocas del Toro.
April 9	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.	April 9	Atenas	United Fruit Co	Bocas del Toro.
April 10	San Gil	United Fruit Co	Boston via Habana.	April 9	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.
April 10	Pastores	United Fruit Co	New York via Habana.	April 10	Panama	Panama Railroad Steamship Line	New York via Haiti.
April 10	Manuel Calvo	Spanish Line	Barcelona via Habana.	April 11	Pastores	United Fruit Co	Port Limon.
April 10	Median	Leyland Line	Liverpool via wayports.	April 12	Sixaola	United Fruit Co	Colombian ports.
April 10	Haiti	French Line	St. Nazaire via wayports.	April 12	Heredia	United Fruit Co	New Orleans via wayports.
April 10	Heredia	United Fruit Co	New Orleans via Habana.	April 12	Atenas	United Fruit Co	New Orleans.
April 11	Sixaola	United Fruit Co	New York via Kingston.	April 12	Metapan	United Fruit Co	New York via Kingston.
April 12	Cristobal	Panama Railroad Steamship Line	New York via Haiti.	April 12	San Gil	United Fruit Co	Boston via Port Limon.
April 12	Atenas	United Fruit Co	Bocas del Toro.	April 12	Haiti	French Line	St. Nazaire via wayports.
April 12	Metapan	United Fruit Co	Colombian ports.	April 12	Manuel Calvo	Spanish Line	Barcelona via wayports.
April 11	Arabia	San Blas Trading Co	Colon.	April 14	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
April 13	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.	April 14	Camito	Elders & Fyffes, Ltd	Kingston.
April 11	Camito	Elders & Fyffes, Ltd	Port Limon.	April 14	Median	Leyland Line	Palo Alto, Cuba.

[10] Schooner.

PORT OF BALBOA.

April 8	Sinaloa	Latin-American Line	Paita.	April 8	Sinaloa	Latin-American Line	San Francisco.
April 12	Noma [11]	Rodman Wanamaker	Galapagos Islands.	April 14	Anomia	Anglo-Saxon Petroleum Co	Los Angeles.
April 12	Anomia	Anglo-Saxon Petroleum Co	San Pedro.				

[11] Yacht.

* Other than ships passing through the Canal.

Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1922.

ATLANTIC TO PACIFIC.

Commodity.	ORIGIN.								Totals.	DESTINATION.									
	West Indies.	South America.	Canada.	Mexico.	Cristobal.	Europe.	British Isles.	United States.		South America.	United States.	Far East.	Australia.	Canada.	Central America.	Balboa.	Hawaii.	North America.	Mexico.
Aerated waters						129	19	328	476	19	328							129	
Aeroplanes								78	78		78								
Agricultural implements			33			425	2,584	11,932	14,974	3,451	4,996	186	6,287						54
Alcohol								68	68		68								
Alum							40		40		40								
Ammonia						645		46,503	47,148		2,047	38,670	3,708				2,723		
Ammunition								94	94		72		22						
Asbestos							134	132	266		55	77	100	34					
Asphalt	5,000			1,000		150		10,399	16,549	1,174	160	11,796	3,419						
Automobiles	2		8,772		34	156	922	15,936	25,822	559	1,749	1,446	21,889	6	36		2	135	
Auto accessories			629				66	4,324	5,019	145	3,464	225	1,185						
Barley							9	62	71	62	7				2				
Beans						72	76	199	347	13	77	42	80	135					
Blood and tankage		8,220							8,220		8,220								
Bones, bone meal		4,606						100	4,706		4,706								
Borax						6	66	150	222	8	59	100	61						
Bricks, fire						261	3,885	401	4,547	1,444	2,903			200					
Canned goods:																			
Fish			145		37	1,293	345	9,159	10,979	250	9,406	859	273	5				186	
Fruit					2	380	45	1,431	1,858	253	1,452	90	25	10				25	
Meat		39			12	192	680	2,075	2,998	251	1,815	272	603				17	10	
Milk						70		1,264	1,334	1,296	8	30							
Vegetables			2			658	87	14,145	14,892	746	13,835	135	27	100	38		1	10	
Other							309	3,664	3,954	5	3,559	100	300						
Calcium chloride			42			1,086	4	596	1,728	1,290	32		95		311				
Canary seed		527							527		527								
Carbon black								260	260			239	21						
Caustic soda								2,011	2,011	72	1,575	309			8		47		
Cement			2		686	31,507	7,303	21,598	61,096	46,968	7,617	487	1,132	11	4,092	689			100
Cereals			4					313	317		67	211	39						
Chalk						3,380	4		3,384	4	3,380								
Charcoal								512	512		512								
Chemicals			208		65	2,535	4,521	11,776	19,108	4,278	6,508	4,970	2,955		117		220	60	
Chocolate					233	4	109	1,345	1,682	6	1,473	6	19					172	15
Clay						65	880	58	1,003	60	913								
Coal					170	5,725	217,187	120,417	343,499	167,981	95,468		51,472	6,016	170	4,975	17,294		120
Coal tar								13	13		13								
Cocoa	1	307	708		1,030	37	231	577	2,891	12	1,839	82	942	6				10	
Coffee		15,408	15	150	3,148	467		1,083	20,271	67	19,713	102	15	366		8			
Coke						1,728	37,117	4,578	43,423	28,164	13,931		1,228	100					

Cold storage:																			
Butter						50		166	216	50	156		10						
Cheese						77			77		63			14					
Lard					299		4	3,534	3,837	860	2,932		4		41				
Tallow					13				13	13									
Casein						100		49	149		149								
Other			16			372	15	507	910	9	695		71					135	
Cork								290	290	3	287								
Corn								382	382		382								
Cotton		1,600			174	328		95,853	97,955	475	2,108	95,372							
Cotton seed		3,251				540		534	4,325	3,791	6	528							
Creosote						13,969	5,045	15	19,029		17,829			1,200					
Crockery								30	30		30								
Cosmetics								27	27		15	12							
Confectionery								216	216	15	201								
Cotton seed oil cake								680	680		680								
Copra								2,808	2,808		30	2,778							
Cyanide					46			404	450		270				180				
Drugs							129	911	1,040	129	758		151		2				
Dyes						100		408	508		100	408							
Dyewoods						5		50	55	5		50							
Earthenware						52	1,451	323	1,826	78	323		1,350	75					
Epsom salts								18	18		18								
Explosives					1	424	645	3,067	4,137	893	2,509	21	708		6				
Extract quebracho		340						9	349		299	50							
Fertilizer		14,424				1,613	3,560	769	20,366	8	16,390		3,560		408				
Flint pebbles						1,942			1,942		1,142			800					
Flour					411	77	1,012	831	2,331	1,096	201		1,034					160	
Fruits, dried						72	786	67	925	5	440	10		310					
Fuller's earth							383	11,643	12,026		12,001			25					
General	134	9,566	20,812		71,277	173,974	280,064	1,345,500	1,901,327	262,542	861,076	331,941	344,121	22,921	23,334	27	23,767	28,375	3,223
Glass						24,444	270	6,038	30,752	635	25,098	381	208	3,067	3		15	1,345	
Glucose								1,088	1,088		946		142						
Granite							15		15		15								
Graphite								100	100			100							
Guano							61	700	761		761								
Glycerine								492	492		492								
Gum, copal						24			24		24								
Hats					5	33	21	123	182	53	113	10	5		1				
Hemp							37	330	367	1	329		2		35				
Hair		40						11	51			51							
Indigo					3	3	14	408	428	6		408	14						
Ink								155	155	11	70	50	24						
Jute					350	32	69	620	1,071	581	465				25				
Lampblack								25	25		25								
Leather						1		96	97	1	96								
Lime Acetate								37	37	37									
Linoleum						20	205	3,142	3,367		3,185		52	70				60	
Linseed		299							299		299								
Liquors			12		665	1,918	11,081	535	14,211	2,663	433	206	2,726	7,811	208			164	
Lithpone								290	290		290								
Livestock			6		1	48		3	58	49			9						

Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1922.—Continued.

ATLANTIC TO PACIFIC.—Continued.

Commodity.	ORIGIN.								Totals.	DESTINATION.									
	West Indies.	South America.	Canada.	Mexico.	Cristobal.	Europe.	British Isles.	United States.		South America.	United States.	Far East.	Australia.	Canada.	Central America.	Balboa.	Hawaii.	North America.	Mexico.
Lumber		2,428	30			62		6,010	8,530	3,698	3,382	566	884						
Manufactured goods:																			
Iron and steel			12,704		1,886	39,853	81,815	1,239,941	1,376,202	83,645	695,282	461,461	93,534	16,650	1,922	74	17,635	5,474	525
Machinery		21	1,450		313	8,759	15,189	95,124	120,856	20,750	32,677	43,075	21,195	708	1,082	3	200	736	430
Railroad material			4,900		36	30,403	13,007	137,771	186,117	34,108	32,301	107,037	10,312	180	309		445	1,052	373
Textiles		44	240		1,620	6,857	12,996	31,225	52,982	17,681	18,651	4,018	10,134	444	1,026		10	1,018	
Other		79	836		352	5,295	8,475	85,596	100,633	10,135	75,759	8,571	4,547	80	296		25		1,220
Marble						353		1,351	1,704	373	1,331								
Matches						63		110	173		165				8				
Metals:																			
Aluminum								303	303		23	280							
Copper							65	11,600	11,665	32	393	11,193	47						
Iron						20,863	22,444	17,969	61,276	2,357	45,412	2,108	7,132	4,034				183	50
Lead					9	17	223	128	377	97	30	45	205						
Silver							15		15				15						
Tin					50	10	11,471	101,988	113,519	2,000	77,763	13,151	931	9,503	73		3,132	6,920	46
Zinc						57	25	1,345	1,427	50	501	849	25	2					
Scrap								3,547	3,547		3,177	370							
Other						33	1,398	684	2,115		39	325	1,718	33					
Milk, powdered								150	150		150								
Musical instruments			100			30	25	747	902	30	403		469						
Magazines								526	526		526								
Malt						34		314	348	348									
Nitrate								1,125	1,125			1,125							
Nuts		1,053				146			1,199		1,119			50				30	
Oils:																			
Crude	8,000			378,928	54	65	374	27,470	414,891	295,243	250	29,117	3,416	15,000	4,687	60,379			6,800
Coconut								8	8		8								
Cottonseed								1,396	1,396	749	647								
Linseed						1,450	7,398	1,336	10,184	216	9,858	2	106		2				
Lubricating				4,800	53	98	243	60,100	65,294	11,992	17,865	25,762	9,284	44	209		15	120	3
Olive						1,126	44	438	1,608	108	1,500								
Pine								33	33		33								
Refined		37		21,703	128	38	945	604,466	627,317	17,539	2,912	497,404	105,360		62	1,040		3,000	
Vegetable						1,172	312	1,798	3,282	1,607	1,354	106	98					117	
Other					11	602	259	4,973	5,845	963	1,452	1,491	1,937		2				
Ores:																			
Copper						18		1,893	1,911	18		1,800		93					
Iron					2	2,851	2,394	15,455	20,702	1,349	11,120	7,833	100					300	

Ores—Continued.																		
Manganese						532	672	15	1,219	232	987							
Magnesite								429	429		429							
Tin								11,168	11,168		10,868	300						
Zinc						100			100			100						
Other					136	288		1,138	1,562	268	621	545			128			
Paints						169	2,318	1,719	4,206	531	1,681	4	1,962		28			
Paper			7,264		250	20,159	1,266	32,291	61,230	11,676	34,026	4,612	9,093	317	975	16		515
Paper, roofing								342	342	73	37	232						
Patent fuel							8,789	504	9,293	9,293								
Peanuts								845	845		845							
Phosphates						960	600	11,723	13,283	10	639	11,434	600					600
Pitch								210	210	10	200							
Potash, sulphite of						1,065	60	314	1,439		1,327	11	60		41			
Pulp						3,396		1,143	4,539		3,620	864	42				13	
Plaster							238	347	585			53	532					
Porcelain						20		40	60	15	45							
Rags						4,434	10	30	4,474		3,649			400				
Rice		4			1,085	2,151	65	6,912	10,217	7,882	2,099	207		4	25			425
Rosin					6			10,836	10,842	897	3,927	4,667	1,351					
Rubber, manufactured			110			14	152	2,964	3,240	57	2,586	158	428				11	
Salt	375	5,676				383	13,438	1,122	20,994	6,069	1,394		13,345	100	86			
Saltpeter						300			300		300							
Seeds		328						123	451	123	328							
Shells, oyster								8,986	8,986		8,491		495					
Silk						14	250	192	456	15	330	61		50				
Silver sand						10,766		1,159	11,925		11,925							
Skins, and hides		3,207					5	211	3,423	514	2,693	165	51					
Slate						25	279	220	524	6	332	10	176					
Soap		4			246	106	1,000	3,878	5,234	464	3,729	33	938	33	26		11	
Soda								343	343	26	317							
Soda bicarbonate							30	219	249	88	85	50						26
Soda ash					29	66	1,170	8,423	9,688	499	7,235	956	896	25	66			11
Spices						43	6	12	61	49	5							7
Starch								1,937	1,937		374	1,526	36		1			
Sugar	132,352	2,750					1,000	23,972	160,074	10	12,918	95,035	2	47,909	4,200			
Sulphur						12		107,882	107,894	12	60,614	1,038	35,180	4,800			750	5,500
Syrup	6,000							1,576	7,576		7,535		41					
Slag							1,840	2,069	3,909				3,909					
Sodium sulphate								2,000	2,000			2,000						
Sodium silicate								207	207	207								
Seed:																		
Beet						240			240		240							
Grass								40	40		40							
Mustard							14		14					14				
Sunflower								117	117		117							
Talc						15			15		15							
Tar							40	575	615	500	75		40					
Tartar						431			431		431							
Tea						17	886	156	1,059	452	478			129				
Tobacco	361	97	50			72	760	32,129	33,469	420	5,304	22,758	3,887					1,100
Toys						50		181	231		231							

Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1922.—Continued.

ATLANTIC TO PACIFIC—Continued.

Commodity.	ORIGIN.								Totals.	DESTINATION.									
	West Indies.	South America.	Canada.	Mexico.	Cristobal.	Europe.	British Isles.	United States.		South America.	United States.	Far East.	Australia.	Canada.	Central America.	Balboa.	Hawaii.	North America.	Mexico.
Turpentine						4		2,212	2,216	4	199	102	1,911						
Vegetables	30				5			10	45		30				15				
Wax					89	80	50	11,022	11,241	5,208	1,252	4,418	332		10		21		
Wood, hard					50	45	23	863	981	179	552	240	10						
Wool					7	142	35	386	570	199	371								
Zinc oxide								985	985		985								
Totals	152,255	74,355	59,090	406,581	85,079	437,546	795,588	4,523,962	6,534,456	1,083,671	2,390,048	1,862,078	796,845	143,884	44,296	67,211	66,354	58,066	13,003

PACIFIC TO ATLANTIC.

Commodity.	ORIGIN.									Totals.	DESTINATION.								
	West coast of North America	West coast of Mexico.	Hawaii.	West Coast of Central America	West Coast of Canada.	Australia.	Far East.	West Coast of United States.	West Coast of South America.		East Coast of United States.	British Isles.	Other European.	Cristobal.	East Coast of Canada.	West Indies.	East Coast of South America.	Mexico.	Africa.
Agricultural implements					26			264	220	510	264	246							
Alpaca									14	14	14								
Asphalt							12	499		511	445	66							
Automobiles							1	255	20	276	206	19	25	23			3		
Auto accessories								4	16	20	18			2					
Algarrobilla									564	564		167	397						
Albumen								75		75	75								
Asbestos						200				200	200								
Alfalfa meal								118		118	82	36							
Balsum				52				2	20	74	15		26	33					
Bark:																			
Cascara	5				23			330	57	415	331	55	26	3					
Peruvian						5			799	804	25	140	608	31					
Quillay									1,504	1,504	59	126	1,319						
Condurango									14	14			9	5					
Other						3				3	3								
Ammonia						234				234	234								
Ammunition								2		2	2								
Arsenic							120	394		514	514								
Barley	2,470					1,569		315,549	38,164	357,752	83	212,997	144,672						

Bamboo							94	26		120	120								
Beans	115	6,513		34	390	854	6,172	41,299	10,552	65,929	41,112	2,805	12,040	106	91	5,775			
Beeswax									87	87	58	29							
Borax					1,200			19,743	27,047	47,990	15,482	19,199	13,303			6			
Bran									9,352	9,352		3,671	5,601	80					
Bristles							82	478		560	551			9					
Burlap									58	58	58								
Cacao				117	6	414		31	39,925	40,493	16,272	260	7,532	15,903		90	436		
Camphor							345	68		413	413								
Canned goods:																			
Fish	2,664		90		12,045		13,094	132,812	7	160,712	107,774	34,837	17,451	28		176	366	80	
Fruit	6,009		22,675		4,629	451	35	219,579	912	254,290	143,028	84,233	26,519	66		444			
Meat						324	4	1,732		2,060	1,503	555		2					
Milk					212			3,665		3,877	3,624	253							
Vegetables							28	20,007		20,035	19,124	482	289	8		132			
Other	2,600						263	15,303		18,166	12,757	2,462	2,600	42		305			
Cassia							3,082			3,082	3,082								
Celite		1,137						11,346		12,483	11,424	580		14	455	10			
Cereals									660	660	660								
Charcoal								344		344	344								
Chemicals							78	4,293		4,371	4,318	53							
Cocoa leaves								8	66	74		1	5	68					
Coffee	2,541			52,267				2,516	25,485	82,809	16,491	1,132	20,462	44,447		277			
Copra			44	23		53,410	12,360	403	1	66,241	16,131	12,494	37,593	23					
Cold storage:																			
Beef					459	11,572	3,000		455	15,486	3,794	11,692							
Butter						17,428		101	3	17,532	101	17,426		3	2				
Casein						311		97		408	391		17						
Cheese						16,098				16,098		16,098							
Eggs								628		628	489	139							
Lard								207		207	99		108						
Mutton						37,735				37,735	337	37,398							
Tallow					240	6,406		2,711	140	9,497	1,813	6,258	1,385		26	15			
Other	160			4	310	8,889		1,626	4	10,993	750	9,624	615	4					
Corn		900			462				5	1,367			1,367						
Cotton, raw				211			1,872	14,604	37,529	54,216	14,658	30,987	2,031	6,540					
Cotton seed								300	15,267	15,567	451	11,986	2,351	779					
Cotton seed oil cake								6,365	18,359	24,724		11,867	12,713	144					
Cement								21		21	12			9					
Chinaware					15					15	15								
Coal						136				136	136								
Cascara								149		149	140	9							
Coconuts						55		24	291	370		55	250	65					
Dyes								13		13	13								
Dyewoods				4,309					400	4,709	946		2,446	1,317					
Drugs								106		106	106								
Earthenware							120	14		134	134								
Eggs, dried							63	899		962	802			160					
Explosives								169		169				150				19	
Fertilizer								495		495	495								
Fireworks							672			672	667					5			
Flax						1,264		27	78	1,369	1,127	215	27						

Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1922.—Continued.

PACIFIC TO ATLANTIC—Continued.

Commodity.	ORIGIN.									Totals.	DESTINATION.								
	West coast of North America.	West Coast of Mexico.	Hawaii.	West Coast of Central America	West Coast of Canada.	Australia.	Far East.	West Coast of United States.	West Coast of South America.		East Coast of United States.	British Isles.	Other European.	Cristobal.	East Coast of Canada.	West Indies.	East Coast of South America.	Mexico.	Africa.
Flour	5,215			2	7,949	25	500	47,291	58	61,040	11,369	40,847	7,325	605		339	555		
Fruit, dried	1,021				96		14	87,265	834	89,230	37,573	27,520	23,989	3		14	131		
Fruit, fresh					106	705		32,452	1,179	34,442	6,971	27,421		27			23		
Fire clay								30		30	30								
Fullers' earth								846	653	1,499	846		653						
Gallstones							60			60	60								
General	999		322	3,516	15,400	29,236	69,711	292,835	40,877	452,896	355,170	52,831	33,030	6,663	10	2,118	2,089	985	
Glassware							200			200	200								
Glue									125	125	125								
Glycerine						40		223		263	213		50						
Graphite							40			40	40								
Guano									5,700	5,700	5,700								
Gum, Kauri						5,277	65			5,342	4,895	132			315				
Hair								127		127	127								
Hardwoods				6,062	167	632		299	198	7,358	4,108	779	513	1,958					
Hats						2	1,030		346	1,378	1,085	7	6	278	2				
Hay						31		2,313	186	2,530	2,268	31	6	182		43			
Hemp				7	781	2,632	15,250	2,308	78	21,056	20,173	866		17					
Honey	2					73		642	1,500	2,217	520	499	1,195		3				
Hops								388		388	302	28	55	3					
Horns, hoofs				15		74	23	92	624	828	122	75	600	31					
Indigo				59						59		2		57					
Infusorial earth								341		341	273	21	29				18		
Ink								39	6	45	39						6		
Iodine				1				3	250	254	139	11	96	8					
Ivory nuts									28,911	28,911	13,090	20	8,791	7,010					
Jute								34	2	36			2	34					
Leather								87	45	132	87		19	26					
Lime			7	11				447		465	454			11					
Liquors					2,051		66	879	235	3,231	879	2,053	15	132		145	7		
Live stock				4						4				4					
Lumber	34,063			5,531	112,446	2,373	11,063	954,451	1,778	1,121,705	972,353	70,702	27,603	301	25,119	5,473	9,838	5,735	4,581
Linoleum							173	1,831		2,004	2,004								
Manufactured goods:																			
Iron and steel					1,178		25	2,913	22	4,138	1,815	2,178	10	135					
Machinery			2	12	8	35	3	3,764	236	4,060	3,669	108	24	194			64	1	
Railroad material								20		20	20								
Textiles						50		772	368	1,190	820	368		2					
Other					5	941	1,701	1,622	32	4,301	4,201	47	32	17			4		

Malt									100	100			100						
Matches							330	10		340	340								
Metals:																			
Antimony							295	384	30	709	679		30						
Copper	2,497			1	7,266	100		67,073	130,866	207,803	129,025	8,038	41,672	29,068					
Bismuth									62	62		62							
Iron								1,025		1,025	1,025								
Lead					5,349	4,748		9,368	132	19,597	6,968	8,871	3,699	59					
Silver and gold				14				4	345	363	117	182	35	29					
Tin					100	1,391	3,828	65	12,730	18,114	7,670	8,881	1,563						
Zinc	550				3,113			1,037	14	4,714	213	3,676	824	1					
Scrap								90	12	102	90	6	6						
Other				4	20		57	1,575	455	2,111	1,152	259	665	35					
Milk, powdered						497		287		784	230	554							
Nitrate								9,998	982,088	992,086	500,097	74,785	358,639	150		15,150			43,265
Nuts								626	330	956	526	430							
Oats	468				925	800		200	12,112	14,505		12,521	1,061	12	300	611			
Oils:																			
Crude						5		357,456	159,760	517,221	389,536	18,074	44,174	10,576		54,861			
Coconut						439	30,014	440		30,893	30,454	39	400						
Eucalyptus						24				24	24								
Lubricating								86,832	32	86,864	59,689	19,555	7,620						
Rape seed								100		100	100								
Cotton seed									793	793		462	34	297					
Refined							16,390	113,281	14,737	144,408	69,514	74,799	42	53					
Vegetable				4			10,548	291	252	11,095	10,789	146	50	110					
Wood							9,506	691		10,197	10,197								
Other	617					320	787	1,284	175	3,183	1,128	2,036	10	4		5			
Onions								969	543	1,512	533			10		969			
Onyx								45		45	45								
Orchids									18	18			18						
Ores:																			
Antimony							516	703		1,219	1,219								
Copper					2,991			5,698	90,365	99,054	95,949	2,103	955	47					
Chrome						1,000				1,000	1,000								
Gold and silver		37							3,260	3,297	2,681	414	1	201					
Iron								33	290,647	290,680	290,589		91						
Lead					336			22	593	951	22	25	904						
Magnesite								1,490		1,490	1,490								
Manganese							10	100	908	1,018	110	908							
Tin							105		34,346	34,451	11,791	18,662	3,942	56					
Tungsten								89		89	89								
Zinc					165			50		215	50	165							
Other				6		6,000		121	1,444	7,571	663	6,138	699	71					
Paints								49	8	57	29						28		
Paper				21	440		70	7,119	10	7,660	7,289		21				350		
Peanuts								253		253	153		100						
Phosphates			6,500			60,000	1,130			67,630	6,930	5,600	55,100						
Porcelain							1,220	175		1,395	1,395								
Pollards									209	209		209							
Pulp, paper	4,128				10,913			1,080		16,121	15,593	528							
Quicksilver								25		25	25								

Classification of Cargo Passing through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1922.—Continued.

PACIFIC TO ATLANTIC.—Continued.

Commodity.	ORIGIN.									Totals.	DESTINATION.								
	West Coast of North America.	West Coast of Mexico.	Hawaii.	West Coast of Central America.	West Coast of Canada.	Australia.	Far East.	West Coast of United States.	West Coast of South America.		East Coast of United States.	British Isles.	Other European.	Cristobal.	East Coast of Canada.	West Indies.	East Coast of South America.	Mexico.	Africa.
Rice		150		11	200		48,484	8,965	12	57,822	20,593	100	613	1,976		33,223	1,317		
Rags						5		447		452	452								
Rubber				6		14	11,608	406	174	12,208	12,126	14	3	50	15				
Rye					2,050			3,244	137	5,431		450	4,981						
Sand						30		25	39	94	25	30		39					
Salt						15			15	30		15				15			
Saltpeter									7,637	7,637			7,637						
Seeds:																			
Clover						84		255	1,589	1,928	335	1,307	286						
Flower								10		10		5	5						
Grass						28				28		28							
Hemp							202	169		371	371								
Linseed							2,493			2,493	2,493								
Millet							210			210	210								
Mustard							1,007	125	125	1,257	1,183		74						
Rape							522	103		625	625								
Sesame							112	25		137	137								
Other				70		217	192	132	52	663	459	82	2	120					
Shells				94	30	1,103	187	76	11	1,501	1,275	30	159	37					
Silk							314	850		1,164	1,148			16					
Slate								150		150		150							
Skins and hides	340	17		1,205	692	9,232	2,655	11,323	8,604	34,068	23,031	5,599	2,367	2,386	685				
Soap								197		197	195			2					
Soda								100		100			100						
Spices							547	8		555	547			8					
Sugar			8,055	10,000		2,940	106,780	200	149,305	277,280	124,792	103,170	44,573	4,745					
Syrup								122		122	122								
Starch							628			628	628								
Talc								1,409		1,409	1,404	5							
Tea							14,915	823		15,738	15,738								
Tartar									36	36	26	10							
Tobacco				1			125	45	4	175	170		1	4					
Vegetables								190	333	523	277			65		181			
Walnuts								971	284	1,255	1,255								
Wax							26	571	20	617	602	13	2						
Wheat	21,006				161,952	19,741		569,580	164	772,443	5	409,981	347,555						14,902
Wool	3,000				600	78,729	8,059	36,429	16,475	143,292	85,377	51,054	5,862	445	554				
Zinc oxide								109		109	109								
Totals	90,470	8,754	37,695	83,674	357,346	386,946	415,293	3,561,212	2,234,710	7,176,100	3,849,030	1,597,369	1,354,505	138,434	27,577	124,382	15,235	6,320	62,748

THE PANAMA CANAL RECORD

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CANAL WORK IN MARCH.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of March, 1923:

BALBOA HEIGHTS, C. Z., April 19, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering the operations of the Panama Canal during the month of March, 1923:

NUMBER OF TRANSITS.

A new Canal record for number of transits was established in March, exceeding by 96 the previous high month. The record number of transits is due in part to the return of the Atlantic Fleet through the Canal following the completion of the maneuvers in Panama Bay in conjunction with the Pacific Fleet, and in part to the month's heavy commercial traffic, which exceeded the previous high month by 57 transits.

The total number of vessels and craft of all kinds transiting the Canal during the month of March, 1923, as compared with total transits for the same month in 1922 and 1921, is shown in the following table:

	March, 1923.	March, 1922.	March, 1921.
Commercial vessels	409	234	255
Noncommercial vessels (Army and Navy)	106	15	37
Launches, etc. (under 10 tons measurement)	6	4	11
Total vessels transiting Canal	521	253	303

In addition to the vessels listed above, Panama Canal equipment consisting of dredges, tugs, barges, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	3	7	10
Pedro Miguel	35	44	79
Miraflores	26	32	58

COMMERCIAL TRAFFIC.

The growth of Canal traffic during the present fiscal year is shown by the following table, which also affords a ready comparison with traffic for the corresponding period during the preceding fiscal year:

Month.	Number of ships.		Panama Canal net tonnage.		Cargo tonnage.		Tolls.	
	Fiscal year.		Fiscal year.		Fiscal year.		Fiscal year.	
	1922.	1923.	1922.	1923.	1922.	1923.	1922.	1923.
July	206	251	810,613	1,127,871	708,982	1,211,100	$804,503.11	$1,094,127.42
August	236	257	965,276	1,084,133	839,273	1,165,950	955,380.78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,138,188	892,001.54	1,020,064.55
October	255	294	1,069,554	1,310,392	935,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,280	855,440	1,426,860	923,048.70	1,264,436.54
December	239	304	1,017,244	1,375,263	953,053	1,535,102	1,003,598.27	1,312,570.12
January	210	352	846,516	1,610,692	807,298	1,591,932	847,767.55	1,505,285.55
February	212	326	886,535	1,529,547	838,074	1,563,278	866,266.18	1,423,954.21
March	234	409	975,811	1,988,192	960,089	1,940,928	956,726.76	1,827,718.44
9 months	2,035	2,727	8,439,097	12,433,780	7,702,878	13,019,201	8,297,228.51	11,759,001.58

The increase in commercial traffic for the first 9 months of the present fiscal year over the corresponding period of last fiscal year has been 34 per cent in point of transits; 47 per cent in net tonnage; 69 per cent in cargo tonnage; and 42 per cent in tolls.

The following shows a summary of the month of March, 1923, traffic as compared with the traffic for the same month in 1922 and 1921, and as compared with the average month's traffic for the calendar year 1922:

Daily average.	March, 1923.	March, 1922.	March, 1921.	Average per month for calendar year 1922.
Number of vessels	409	234	255	250
U. S. equivalent tonnage	1,608,358	786,759	924,309	864,647
Panama Canal net tonnage	1,988,192	975,811	1,112,818	1,082,714
Registered gross tonnage	2,532,157	1,226,971	1,417,220	1,359,595
Registered net tonnage	1,602,219	776,034	917,441	959,176
Tolls	$1,827,718.44	$956,726.76	$1,105,536.55	$1,047,783.98
Tons of cargo carried	1,940,928	960,089	1,084,563	1,142,546

The average daily number of transits, tonnage, tolls, cargo, etc., are shown herewith in comparative form:

Daily average.	March, 1923.	March, 1922.	March, 1921.	Average per day during calendar year 1922.
Number of transits	13.2	7.5	8.2	8.2
Panama Canal net tonnage	64,135	31,478	35,897	35,596
Tolls	$58,958.66	$30,862.15	$35,662.47	$34,447.69
Tons of cargo carried	62.611	30,971	34,986	37,563

From the above it will be seen that as compared with March of last year the number of commercial transits increased 75 per cent; the net tonnage, 103 per cent; the tolls, 91 per cent; and cargo 102 per cent. The explanation of the tolls not increasing in proportion to the net tonnage is due to the large number of tank ships transiting the Canal in ballast and paying the lower rate of tolls charged on vessels in ballast.

AVERAGE TONNAGE, TOLLS AND CARGO PER VESSEL.

The average tonnage, tolls and cargo per vessel transiting the Canal during the month are shown in the following statement, which also affords a comparison with the month of March in 1922 and 1921:

Average per vessel.	March, 1923.	March, 1922.	March, 1921.
United States equivalent net tonnage	3,932	3,362	3,624
Panama Canal net tonnage	4,861	4,170	4,364
Registered gross tonnage	6,191	5,243	5,557
Registered net tonnage	3,917	3,316	3,597
Tolls	$4,468.75	$4,088.57	$4,335.44
Tons of cargo (including vessels in ballast)	4,745	4,103	4,645
Tons of cargo (laden vessels only)	6,342	4,424	4,844

The many large oil tankers and ore-carrying vessels using the Canal at the present time have tended to raise materially the average tonnage and cargo of ships transiting the Canal over averages of a year or two ago.

UNITED STATES INTERCOASTAL TRAFFIC.

The United States intercoastal traffic passing through the Canal during March exceeded that of any previous month, and was approximately 3 times the volume of the intercoastal traffic in March of last year.

The rapid growth of the intercoastal traffic is shown by the following statement, which gives a summary of the March intercoastal traffic through the Canal for the past 4 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
March, 1923	85	479,786	237,564	71	397,033	658,267
March, 1922	34	162,572	141,648	25	128,988	123,657
March, 1921	16	71,770	55,111	11	61,804	52,289
March, 1920	3	8,104	7,650	9	34,681	56,832

Approximately 3 out of every 4 vessels of United States registry transiting the Canal during the month were engaged in the intercoastal trade as is shown by the following summary:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
United States intercoastal trade	156	876,819	$801,501.32	895,801
Other than United States intercoastal	59	268,616	245,163.71	272,001
Total vessels, United States registry	215	1,145,435	1,046,665.03	1,167,802

The great number of tankships transiting the Canal enroute to and from the California oil fields are mostly of American registry, and their cargoes are destined for the greater part to the Atlantic-Gulf seaboard of the United States, which has helped greatly to increase the intercoastal traffic.

UNITED STATES SHIPPING BOARD VESSELS.

Twenty-four vessels of the United States Shipping Board transited the Canal during the month of March, 1923; of these, 15 were engaged in the United States intercoastal trade.

The following shows the number of transits, aggregate net tonnage, and cargo tonnage of Shipping Board vessels transiting the Canal during March for the past 3 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
March, 1923	13	66,314	40,177	11	57,632	78,243
March, 1922	16	84,766	90,633	9	51,848	37,310
March, 1921	18	94,823	83,978	8	34,066	30,025

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show by principal geographical areas, the origin and destination of all tonnage passing through the Canal during March, 1923, as compared with the corresponding month in 1922 and 1921; the figures are for the net tonnage of vessels, according to the Panama Canal rules of measurement:

	March, 1923.	March, 1922.	March, 1921.
Origin, westbound tonnage.			
East coast of United States	816,484	382,213	291,937
Europe (including British Isles)	239,194	144,630	188,548
East coast of Mexico	13,688	17,223	85,275
Cristobal, C. Z.	21,411	21,389	20,731
East coast of South America	40,980	622	706
Remaining	9,525	19,964	26,394
Totals	1,141,282	586,041	613,591
Destination, westbound tonnage.			
West coast of United States	596,845	195,833	139,889
West coast of South America	233,257	105,532	146,075
Australasia	120,615	83,107	153,910
Far East	118,258	149,697	118,053
West coast of Canada	55,391	33,690	27,782
West coast of Mexico and Central America	16,916	18,182	27,882
Totals	1,141,282	586,041	613,591
Origin, eastbound tonnage.			
West coast of United States	462,977	175,669	163,294
West coast of South America	243,903	104,847	203,002
Australasia	46,910	48,575	62,652
Far East	15,535	15,008	28,525
West coast of Canada	70,454	36,684	14,402
West coast of Mexico and Central America	7,131	8,987	27,352
Totals	846,910	389,770	499,227
Destination, eastbound tonnage.			
East coast of United States	554,233	193,267	189,793
Europe (including British Isles)	228,074	134,687	190,683
Cristobal, C. Z.	28,267	18,724	21,228
East coast of Mexico	19,243	34,969	83,700
East coast of South America	8,495	1,244	.....
Remaining	8,598	6,879	13,823
Totals	846,910	389,770	499,227

From the above it will be seen that more than 71 per cent of all westbound tonnage originated on the Atlantic-Gulf seaboard of the United States, and a little more than half of all westbound tonnage was routed to Pacific coast ports of the United States.

Of the eastbound tonnage, a little more than 54 per cent originated on the Pacific coast of the United States, while a little over 65 per cent of all eastbound tonnage was routed to Atlantic-Gulf ports of the United States.

A comparison of this tonnage movement, as given above, with that of 1 and 2 years ago for the same month, shows the great gain in Canal tonnage routed to and from United States ports.

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of March, 1923, was $1,827,718.44. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from this source would have been increased by $331,252.76, distributed by nationality of vessels, as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$51,607.79	$29,057.15	$80,664.94
Chilean	5,241.10	5,503.65	10,744.75
Danish	2,580.40	5,316.20	7,896.60
Dutch	6,709.68	11,794.70	18,504.38
French	1,571.05	.....	1,571.05
German	3,966.65	4,580.80	8,547.45
Japanese	5,473.98	2,061.75	7,535.73
Norwegian	10,187.20	3,611.10	13,798.30
Panaman	247.05	247.05	494.10
Peruvian	3,306.80	5,521.30	8,828.10
Spanish	.....	402.00	402.00
Swedish	2,006.55	4,196.40	6,202.95
United States	68,509.18	97,553.23	166,062.41
Totals	161,407.43	169,845.33	331,252.76

The additional revenue that would have been assessed against vessels of United States registry would have been made up with respect to channels of trade in which the vessels were engaged, as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	$36,686.19	$71,401.00	$108,087.19
United States foreign trade	31,911.56	21,808.43	53,719.99
United States–Canal Zone trade	.....	3,602.95	3,602.95
Foreign trade	88.57	740.85	652.28
Totals	68,509.18	97,553.23	166,062.41

Of the additional $331,252.76 tolls that would have been collected by using exclusively the Panama Canal rules of measurement, $14,826 represents the portion that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in March, 1923, is shown in the following table, segregated by nationality of vessels; laden cargo vessels only are included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.00	1.19	1.07
Chilean	.29	.73	.53
Colombian	1.46	1.45	1.46
Danish	1.51	1.62	1.59
Dutch	.70	1.60	1.41
French	.24	.....	.24
German	.49	1.49	1.06
Italian	.38	.....	.38
Japanese	1.05	1.63	1.27
Norwegian	1.10	1.57	1.31
Panaman	.37	.54	.46
Peruvian	.21	1.04	.82

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
Spanish	.....	2.15	2.15
Swedish	1.20	1.69	1.56
United States	1.26	1.63	1.50
Average ratio, March, 1923	1.06	1.52	1.24
Average ratio, March, 1922	1.05	1.11	1.07
Average ratio, March, 1921	1.08	1.06	1.07

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	.50	1.66	1.02
United States and South America	.20	1.69	.84
United States and Europe	.42	1.41	.77
United States and Far East	1.27	1.38	1.29
Europe and South America	.62	1.59	1.22
Europe and Australasia	.82	.80	.81
Europe and Canada	.64	1.49	1.10
Cristobal, C. Z., and South America	.32	.40	.36
United States and Australasia	.99	.47	.86
United States and Canada	1.18	1.31	1.26

COMMODITY STATISTICS.

Cargo moving through the Canal during March totaled 1,940,928 long tons, and was an increase of more than 100 per cent over March of last year. Of the total, 1,262,440 tons was enroute from the Pacific to the Atlantic, and was the greatest one-way cargo movement through the Canal of any month to date.

The following commodity statistics, compiled from cargo declarations submitted by masters of vessels at time of transit, while incomplete, are indicative of the kind and quantity of the commodities carried by vessels transiting the Canal. A brief summary of the principal items is shown below, the figures representing tons of 2,240 pounds:

Commodity.	March, 1923.	March, 1922.	March, 1921.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	118,339	130,906	70,301
Machinery	19,096	8,792	16,536
Railroad material	15,541	10,746	3,369
Textiles and miscellaneous	27,433	5,864	13,146
Mineral oils:			
Refined	58,407	32,679	61,469
Crude	14,146	41,504	158,307
Lubricating	6,247	3,377	.....
Coal and coke	19,831	50,487	87,945
Cotton	19,088	7,507	8,343
Ammonia	13,397	6,716	1,817
Paper	9,450	2,000	12,350
Cement	9,936	4,364	7,056
Sulphur	9,450	2,000	12,350
Metals, various	28,627	27,665	2,893
Automobiles and accessories	9,135	1,489	916
Phosphates	6,865	155	.....
Coffee	4,958	377	46
Miscellaneous and unclassified	288,542	245,324	179,735
Totals, Atlantic to Pacific	678,488	581,952	636,579
Pacific to Atlantic.			
Mineral oils:			
Crude petroleum	523,268	8,907	.....
Lubricating oil	17,681	7,297	.....
Refined oils	.....	10,272	24,402
Nitrate	222,086	22,231	141,026
Lumber	132,014	74,432	23,661
Ores, various	65,096	4,192	2,845
Wheat	39,280	23,212	57,764
Canned goods	30,755	35,911	7,031
Barley	25,276	7,362	19,908

Commodity.	March, 1923.	March, 1922.	March, 1921.
Pacific to Atlantic—Continued.			
Metals, various	24,718	18,222	17,215
Sugar	17,587	6,386	8,979
Cold storage food products	16,195	19,926	22,771
Coffee	15,584	16,210	4,278
Wool	15,808	20,581	3,615
Fruits, fresh and dried	9,728	7,235	1,219
Flour	7,429	3,147	11,726
Beans, peas, lentils	7,202	7,616	3,223
Miscellaneous and unclassified	94,735	84,998	98,321
Totals, Pacific to Atlantic	1,262,440	378,137	447,984

Cargo tonnage moving from the Atlantic to the Pacific was approximately 16 per cent larger than for March a year ago, and 6 per cent greater than 2 years ago. There has been a decided slump in shipments of crude petroleum and of coal and coke from the Atlantic, and a corresponding increase in shipments of miscellaneous manufactured goods, many of which are impossible to classify and are included under "miscellaneous" cargo.

In cargo moving from the Pacific to the Atlantic, shipments of mineral oils approximated 43 per cent of the total, and show the greatest percentage of gain of any commodity. Shipments of nitrates, lumber, and ores also show considerable increases, and these 3 commodities, together with mineral oils, made up 3 out of every 4 tons of eastbound cargo.

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of March, 1923, was published in THE PANAMA CANAL RECORD under date of April 11, 1923.

The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo moving over the principal trade routes during March, 1923, as compared with traffic through the Canal over these routes for the same month in 1922 and 1921:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	March, 1923.	March, 1922.	March, 1921.	March, 1923.	March, 1922.	March, 1921.
United States coastwise ports	85	34	16	71	25	11
United States and South America	32	14	15	23	11	17
Europe and South America	16	9	9	25	11	16
United States and Far East	22	26	20	3	3	5
Europe and United States	14	6	8	8	7	12
Europe and Canada	7	3	[illegible]	8	3	1
Europe and Australasia	8	9	14	4	8	8
United States and Australasia	9	5	9	3	.....	2
Mexico and South America	1	2	7	2	4	7
Cristobal and South America	8	7	9	9	8	9
United States and Canada	3	2	.....	5	4	2
Miscellaneous	28	21	31	15	12	25
Totals	233	138	140	176	96	115
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	479,786	162,572	71,770	397,033	128,988	61,804
United States and South America	134,311	43,265	51,760	100,227	28,413	6,290
Europe and South America	71,749	39,648	39,832	113,683	41,307	72,706
United States and Far East	113,969	128,520	99,017	15,535	15,008	26,706
Europe and United States	69,041	26,581	38,020	37,441	33,071	61,259
Europe and Canada	36,161	18,032	12,417	43,181	15,826	4,792
Europe and Australasia	56,566	54,848	96,952	31,005	44,483	51,926
United States and Australasia	52,498	28,259	48,203	11,551	.....	10,726
Mexico and South America	4,723	10,076	36,994	9,608	19,788	37,065
Cristobal and South America	14,754	12,543	14,504	16,141	12,552	12,542
United States and Canada	14,743	7,660	.....	27,273	20,858	9,610
Miscellaneous	92,981	54,037	104,122	44,232	29,476	143,801
Totals	1,141,282	586,041	613,591	846,910	389,770	499,227

	Atlantic to Pacific. Tons of cargo carried.			Pacific to Atlantic. Tons of cargo carried.		
United States coastwise ports	237,564	141,648	55,111	658,267	123,657	52,289
United States and South America	27,353	25,879	51,697	169,850	29,098	71,187
Europe and South America	44,860	17,545	28,927	180,635	45,998	85,394
United States and Far East	145,230	192,249	114,059	21,500	18,913	19,366
Europe and United States	29,228	22,735	25,412	52,669	54,268	94,803
Europe and Canada	23,168	21,962	5,560	64,088	24,556	5,590
Europe and Australasia	46,384	35,505	72,339	24,641	45,210	56,642
United States and Australasia	51,884	29,780	60,188	5,446	.....	7,120
Mexico and South America	9,500	19,100	60,800	.....	.....	.....
Cristobal and South America	4,659	3,441	4,435	6,532	3,813	7,809
United States and Canada	17,295	12,200	.....	35,623	21,982	11,050
Miscellaneous	41,363	59,908	158,051	43,189	10,642	36,734
Totals	678,488	581,952	636,579	1,262,440	378,137	447,984

LATIN-AMERICAN TRAFFIC.

Nationality.	No. of transits.	Tonnage. United States equivalent.	Tonnage. Panama Canal net.	Tonnage. Registered. Gross.	Tonnage. Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	17	49,280	62,287	81,862	49,967	$59,738.84	44,490
Chilean	4	8,362	13,078	17,630	10,079	10,452.50	3,788
Colombian	1	334	335	864	614	402.00	490
Danish	2	5,372	6,140	8,514	5,291	5,391.91	3,542
Dutch	5	17,361	23,748	27,930	17,373	17,633.42	10,356
French	1	3,566	4,081	5,681	3,600	4,457.50	818
German	4	10,427	14,167	17,303	10,437	13,033.75	6,899
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Italian	2	6,746	7,449	10,596	6,473	6,366.48	790
Japanese	4	16,432	18,455	24,113	16,113	14,863.44	1,412
Norwegian	9	27,397	35,245	43,763	27,112	26,800.79	2,103
Panaman	4	2,249	2,586	3,794	2,496	2,795.19	909
Peruvian	2	2,504	5,364	7,922	3,941	3,130.00	1,108
United States	21	72,702	84,406	114,082	70,565	73,174.68	34,563
Totals, March, 1923	77	225,871	281,388	369,230	227,293	241,154.34	111,268
Totals, March, 1922	50	120,157	152,485	195,943	120,607	144,979.14	121,290
Totals, March, 1921	67	199,703	240,486	315,677	209,306	247,013.95	296,193
Pacific to Atlantic.							
British	18	55,012	66,579	90,551	55,363	64,926.51	79,562
Chilean	4	10,599	15,627	22,190	12,359	13,248.75	11,331
Colombian	1	334	335	615	373	402.00	487
Danish	3	8,177	10,877	11,655	7,346	10,124.45	19,120
Dutch	12	47,781	59,523	74,620	47,141	59,632.90	96,893
German	5	14,272	18,684	21,893	12,927	17,840.00	27,853
Japanese	1	4,357	4,389	5,864	4,259	5,266.89	8,128
Norwegian	3	8,808	10,278	12,680	8,774	10,626.34	18,266
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,332
Peruvian	5	10,036	14,943	21,259	12,144	12,410.30	15,500
Spanish	1	1,896	2,310	3,611	2,784	2,370.00	4,955
Swedish	1	3,338	5,014	5,391	4,048	4,172.50	9,051
United States	17	54,545	95,429	90,328	54,591	66,742.55	105,529
Totals, March, 1923	72	221,318	306,447	363,971	224,272	270,466.85	398,007
Totals, March, 1922	45	102,092	127,444	171,129	104,701	114,722.68	87,163
Totals, March, 1921	73	223,131	270,585	350,342	224,200	241,370.51	200,937

TRAFFIC BY NATIONALITY.

Slightly less than three-fifths of the total traffic through the Canal during the month was tonnage under the American flag, as will be seen by the following statement:

	No. of transits.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
United States	215	1,145,435	$1,046,665.03	1,167,802
All other	194	842,757	781,053.41	773,126
Totals	409	1,988,192	1,827,718.44	1,940,928

A statement of the commercial traffic transiting the Canal during March, 1923, classified according to nationality of vessels, is shown in the following tabulation, segregating the eastbound and westbound traffic, and then showing the combined traffic in both directions:

Nationality.	No. of transits.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	58	227,433	286,302	364,544	225,970	$264,861.49	220,515
Chilean	4	8,362	13,078	17,630	10,079	10,452.50	3,788
Colombian	1	334	335	864	614	402.00	490
Danish	3	8,689	11,443	13,810	8,602	9,538.16	12,130
Dutch	7	24,875	34,643	39,991	24,833	27,025.92	12,403
French	3	12,715	14,554	18,172	11,367	15,893.75	3,540
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
German	4	10,427	14,167	17,303	10,437	13,033.75	6,899
Italian	2	6,746	7,449	10,596	6,473	6,366.48	790
Japanese	10	40,199	47,222	60,632	39,218	44,392.74	34,610
Norwegian	14	45,960	60,081	72,056	45,355	47,305.04	27,889
Panaman	4	2,249	2,586	3,794	2,496	2,795.19	909
Peruvian	2	2,504	5,364	7,922	3,941	3,130.00	1,108
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	4,819
United States	119	523,419	635,992	807,813	516,121	524,739.14	348,598
Totals, March, 1923	233	919,304	1,141,282	1,444,048	911,594	975,666.25	678,488
Totals, March, 1922	138	472,020	586,041	724,316	461,154	580,374.55	581,952
Totals, March, 1921	140	514,468	613,591	784,748	506,842	635,165.10	636,579
Pacific to Atlantic.							
British	34	120,159	149,909	192,193	119,072	146,349.01	167,545
Chilean	4	10,599	15,627	22,190	12,359	13,248.75	11,331
Colombian	1	334	335	615	373	402.00	487
Danish	4	11,700	16,537	18,574	12,569	14,528.20	26,848
Dutch	13	53,864	65,583	82,271	51,937	66,904.90	104,968
German	5	14,272	18,684	21,803	12,927	17,840.00	27,853
Japanese	4	17,770	20,079	26,271	17,454	22,033.05	32,778
Norwegian	5	16,936	20,454	25,418	16,797	20,786.34	31,801
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,332
Peruvian	5	10,036	14,943	21,259	12,144	12,410.30	15,500
Spanish	1	1,896	2,310	3,611	2,784	2,370.00	4,955
Swedish	3	6,768	10,547	10,945	8,473	10,550.00	17,838
United States	96	422,557	509,443	659,555	421,573	521,925.89	819,204
Totals, March, 1923	176	689,054	846,910	1,088,109	690,625	852,052.19	1,262,440
Totals, March, 1922	96	314,739	389,770	503,655	314,880	376,352.21	378,137
Totals, March, 1921	115	409,841	499,227	632,472	410,599	470,371.45	447,984

Nationality.	No. of transits.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	92	347,592	436,211	556,737	345,042	$411,210.50	388,060
Chilean	8	18,961	28,705	39,820	22,438	23,701.25	15,119
Colombian	2	668	670	1,479	987	804.00	977
Danish	7	20,389	27,980	32,384	21,171	24,066.36	38,978
Dutch	20	78,739	100,226	122,262	76,770	93,930.82	117,371
French	3	12,715	14,554	18,172	11,367	15,893.75	3,540
German	9	24,699	32,851	39,106	23,364	30,873.75	34,752
Greek	1	3,139	4,047	5,176	3,230	2,913.84	.....
Italian	2	6,746	7,449	10,596	6,473	6,366.48	790
Japanese	14	57,969	67,301	86,903	56,672	66,425.79	67,388
Norwegian	19	62,896	80,535	97,474	62,152	68,091.38	59,690
Panaman	5	4,412	5,045	7,198	4,659	5,498.94	2,241
Peruvian	7	12,540	20,307	29,181	16,085	15,540.30	16,608
Spanish	1	1,896	2,310	3,611	2,784	2,370.00	4,955
Swedish	4	9,021	14,566	14,690	11,331	13,366.25	22,657
United States	215	945,976	1,145,435	1,467,368	937,694	1,046,665.03	1,167,802
Totals, March, 1923	409	1,608,358	1,988,192	2,532,157	1,602,219	1,827,718.44	1,940,928
Totals, March, 1922	234	786,759	975,811	1,226,971	776,034	956,726.76	960,089
Totals, March, 1921	255	924,309	1,112,818	1,417,220	917,441	1,105,536.55	1,084,563

VESSELS WITHOUT CARGO.

The number of cargo ships transiting the Canal in ballast is shown in the following statement, the vessels being grouped according to flag:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
British	10	46,503	$33,937.02	2	9,608	$6,917.76
Norwegian	1	5,520	4,049.25			
United States	53	332,940	241,714.35	1	2,512	1,902.00
General cargo ships:						
British	5	18,861	16,396.62			
Danish	1	3,428	2,468.16			
Dutch	3	17,000	13,184.67			
Greek	1	4,047	2,913.84			
Italian	1	5,359	3,858.48			
Norwegian	7	29,212	21,383.29	1	307	221.04
Japanese	3	14,166	10,307.19			
Panaman	3	127	91.44			
United States	6	25,642	18,539.34	1	4,750	3,420.00
Totals	94	502,805	368,843.65	5	17,177	12,460.80

CLASSIFICATION OF VESSELS.

A further classification of commercial traffic through the Canal during the month, by kind of vessels, is shown below:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
Laden	5	26,403	$28,544.95	47	289,773	$309,952.25
Ballast	64	384,963	279,700.62	3	12,120	8,819.76
General cargo and passenger vessels:						
Laden	133	611,650	577,888.40	121	539,381	527,129.20
Ballast	30	117,842	89,143.03	2	5,057	3,641.04
Noncargo-carrying vessels:						
Cruiser				1		2,090.00
Yachts	1	424	389.25	2	579	419.94
Totals	233	1,141,282	975,666.25	176	846,910	852,052.19

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of March, 1923. If tolls had been assessed against these vessels at commercial rates, the amount of tolls would have been approximately as indicated:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.[1]	Tolls.	No. of ships.	Tonnage.[1]	Tolls.
U. S. Navy vessels:						
Battleships				5	[2] 120,425	$60,212.50
Cruiser				1	[2] 8,150	4,075.00
Destroyers				23	[2] 27,945	13,972.50
Submarines	2	[2] 1,708	$854.00	25	[2] 13,862	6,931.00
Minesweepers	1	[2] 950	475.00	10	[2] 9,500	4,750.00
Transports	1	[3] 4,945	3,560.40	1	[2] 13,400	6,700.00
Transports				1	[3] 4,945	3,560.40
Hospital ship				1	[2] 10,100	5,050.00
Tenders	2	[2] 22,025	11,012.50	2	[2] 21,700	10,850.00
Tenders	1	[3] 3,920	2,822.40	5	[3] 16,431	11,830.32
Auxiliaries				3	[3] 13,583	11,870.16
Fuel ships	4	[3] 21,810	26,172.00	7	[3] 41,030	29,541.60
Minelayers	2	[2] 2,430	1,215.00	3	[2] 6,182	3,091.00
Tugs	2	[3] 226	162.72	2	[3] 226	162.72
Tug				1	[2] 969	484.50
Training ship	1	[2] 1,050	525.00			
Totals	16	[2] 28,163 [3] 30,931	46,799.02	90	[2] 232,233 [3] 76,215	173,081.70

[1] Panama Canal tonnage shown where measurement is known; otherwise, displacement. [2] Displacement tonnage. [3] Panama Canal net tonnage.

The vessels listed above as transiting the Canal free of tolls carried cargo as follows:

	Tons.
Vessels transiting from Atlantic to Pacific	34,214
Vessels transiting from Pacific to Atlantic	40
Total	34,254

The following statement shows the number of launches transiting the Canal during the month; these vessels, though paying tolls, are excluded from the statement of commercial traffic:

	Number.	Tonnage.	Tolls.
Cristobal	5	11	$8.13
Balboa	1	9	6.75

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of March, 1923, are shown in the following tabulation:

		Cristobal.	Balboa.	Totals.
Local cargo arriving	tons	36,169	93,034	129,203
Local cargo shipped	tons	3,796	636	4,432
Transit cargo arriving	tons	1,956,833	1,925,611	3,882,444
Transit cargo clearing	tons	1,935,129	1,925,611	3,860,740
Cargo received for transshipment	tons	25,569	320	25,889
Cargo transshipped	tons	30,184	343	30,527
Vessels supplied with bunker coal:				
Army vessels		1	1	2
Commercial, other than Panama Railroad Co		61	4	65
Panama Railroad vessels		2	.....	2
Total vessels supplied with coal		64	5	69
Coal supplied to above vessels:				
Army vessels	tons	64	3	67
Commercial, other than Panama Railroad Co	tons	16,608	27	16,635
Panama Railroad vessels	tons	697	.....	697
Total coal supplied to vessels	tons	17,369	30	17,399
Coal issues, miscellaneous:				
Panama Canal departments	tons	251	56	307
Panama Railroad Co	tons	30	.....	30
U. S. Army, excepting vessels	tons	373	.....	373
Individuals and companies	tons	308	.....	308
Total coal issued from Panama Canal deposits:				
March, 1923	tons	18,331	86	18,417
March, 1922	tons	20,969	2,822	23,791
March, 1921	tons	37,827	2,486	40,313
Coal on hand, April 1, 1923	tons	75,211	2,896	78,107
Coal on hand, March 1, 1923	tons	69,494	2,982	72,476
Coal received during March, 1923	tons	24,048	.....	24,048
Fuel oil issued from Panama Canal tanks:				
Panama Canal departments	bbls	5,962	17,599	23,561
Panama Railroad Co	bbls	1,184	.....	1,184
Army and Navy	bbls	204	115	319
Total issues and sales	bbls	7,350	17,714	25,064
Fuel oil on hand, April 1, 1923	bbls	24,570	7,596	32,166
Fuel oil on hand, March 1, 1923	bbls	31,920	25,343	57,263
Dropped on survey during month	bbls	.....	33	33
Diesel oil issued during March, 1923	bbls	9	.....	9
Diesel oil sold during March, 1923	bbls	263	.....	263
Diesel oil on hand, April 1, 1923	bbls	43,302	843	44,145
Oil pumped for individuals and companies	bbls	375,330	712,921	1,088,251
Miscellaneous transfers	bbls	.....	6,335	6,335
Total oil handled by oil plants during the month	bbls	382,952	736,970	1,119,922
Admeasurement certificates of vessels:				
United States equivalent issued or made		35	5	40
Measured for Panama Canal net tonnage		6	1	7
Remeasured for Panama Canal net tonnage		13	4	17
Panama Canal net tonnage corrected		25	11	36
United States equivalent net tonnage corrected		22	19	41

	Cristobal.	Balboa.	Totals.
Services of harbor equipment:			
Tugs, total operating hours	451	616	1,067
Launches, total operating hours	1,466	2,516	3,982
Scows, total operating days	.....	15	15
Revenues from tug service, pilotage, etc.:			
Tug service	$14,291.85	$11,751.25	$26,043.10
Launch service	1,752.00	4,228.50	5,980.50
Pilotage	14,668.00	9,112.00	23,780.00
Seamen	7,832.00	6,304.00	14,136.00
Wharfage	1.00	5,754.47	5,755.47
Ships measured	235.00	.....	235.00
Miscellaneous cash and collections	1,463.94	3,321.50	4,785.44
Vessels repaired at Panama Canal shops:			
Commercial	33	15	48
United States Army and Navy	3	9	12
Canal equipment	6	15	21
Vessels dry-docked:			
Commercial	2	3	5
United States Army and Navy	.....	2	2
Canal equipment	2	.....	2
Clearances issued	245	250	495
Bills of health issued	248	285	533

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of March, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	547	3,339,249	2,254,458	424	2,671,774	1,728,294
Vessels entering the port but not transiting Canal	51	303,902	182,693	12	65,008	41,060
Vessels transiting Canal and handling passengers and cargo	80	437,823	271,693	50	490,005	461,336
Ships clearing.						
All vessels, including those transiting Canal	546	3,811,689	2,236,697	562	3,413,611	2,433,779
Vessels entering the port but not transiting Canal	54	314,838	193,342	76	447,412	418,804
Vessels transiting Canal and handling passengers or cargo	82	432,701	268,427	49	257,993	174,098

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of March, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	1,141	1,134	2,275	14	937	951
From Pacific ports	173	45	218	126	57	183
Total disembarking	1,314	1,179	2,493	140	994	1,134
Embarking:						
For Atlantic ports	1,464	834	2,298	55	1	56
For Pacific ports	204	40	244	98	98	196
Total embarking	1,668	874	2,542	153	99	252
Remaining on board vessels:						
From Atlantic to Pacific ports	641	1,688	2,329	705	864	1,569
From Pacific to Atlantic ports	884	702	1,586	841	640	1,481
From Atlantic to Atlantic ports	2,420	100	2,520	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	19	340	359
Total remaining on board	3,945	2,490	6,435	1,565	1,844	3,409
Total passengers arriving	5,259	3,669	8,928	1,705	2,838	4,543
Total passengers departing	5,613	3,364	8,977	1,718	1,943	3,661

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of March, 1923:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$208.85	$3,637.63	$358.47	$738.45	.....	$4,943.40
Panama Railroad vessels	27.00	2,407.53	50.03	693.05	.....	3,177.61
Other commercial vessels	1,307.01	16,617.29	5,337.76	2,403.72	.....	25,665.78
Total sales, March, 1923	1,542.86	22,662.45	5,746.26	3,835.22	.....	33,786.79
Total sales, March, 1922	1,255.62	19,017.93	5,921.65	1,418.64	.....	27,613.84
Total sales, March, 1921	2,440.59	38,970.12	8,383.26	2,396.50	6,274.77	58,465.24
Sales at Balboa to:						
U. S. Government vessels	3,378.30	68,114.96	14,817.85	18,664.96	2,185.56	107,161.63
Panama Railroad vessels	74.19	550.15	88.74	4.18	.....	717.26
Other commercial vessels	248.00	4,155.64	557.11	1,985.67	424.83	7,371.25
Total sales, March, 1923	3,700.49	72,820.75	15,463.70	20,654.81	2,610.39	115,250.14
Total sales, March, 1922	691.51	11,486.67	5,397.63	2,030.83	16.14	19,622.78
Total sales, March, 1921	1,644.90	30,710.56	10,243.14	1,967.35	910.67	45,476.62

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of March, 1923, as compared with the same month in 1922 and 1921:

	Commercial.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	March, 1923.	March, 1922.	March, 1921.
Number of lockages.									
Gatun	170	219	389	35	10	45	434	235	267
Pedro Miguel	168	219	387	44	23	67	454	247	296
Miraflores	171	226	397	48	20	68	465	233	282
Number of vessels put through locks.									
Gatun	180	237	417	95	30	125	542	279	321
Pedro Miguel	178	233	411	128	60	188	599	285	367
Miraflores	178	233	411	124	51	175	586	286	335

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels	105	109	117
Panama Canal equipment	20	79	58

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,719,100,000	1,446,130,000	1,437,400,000
Leakage	30,000,000	.....	20,000,000
Total consumption, March, 1923	1,749,100,000	1,446,130,000	1,457,400,000
Total consumption, March, 1922	907,670,000	831,680,000	730,408,000
Total consumption, March, 1921	990,900,000	919,450,000	908,450,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of March, 1923, are shown in comparative form:

Rainfall.	March, 1923.	March, 1922.	March—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific section	T	1.56	1.93	T	.55
Central section	.21	.20	4.28	.09	.68
Atlantic section	.75	1.50	7.65	.58	1.82
Maximum recorded on any 1 day	.60	2.15	[1] 10.86	.....	.....
Gatun Lake watershed	.59	.52	2.11	.24	.76
Chagres River watershed above Alhajuela	.95	1.14	4.58	.22	1.08
Maximum recorded for month at any 1 point	1.75	3.44	9.71	.....	.....
Minimum recorded for month at any 1 point	.00	.00	.....	.00	.....
Hydrography.	*C.f.s.*	*C.f.s.*	*C.f.s.*	*C.f.s.*	*C.f.s.*
Discharge of Chagres River at Alhajuela	724	917	1,625	382	738
Maximum momentary discharge for month	1,155	2,763	[2] 170,000	.....	.....
Gatun Lake watershed, total yield	883	1,257	1,792	594	1,126
Gatun Lake watershed, net yield	-84	190	1,250	-385	269
Draft on Gatun Lake for lockages and power	2,489	2,012	2,448	[3] 1,148	[3] 1,800

NOTE.—This report does not include Bocas del Toro.

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28–29, 1909. [2] This figure represents the maximum discharge on record. Occurred on December 26, 1909. [3] Not including March, 1914.

SEISMOLOGY.

Seismic tremors were recorded on the 19th, 21st and 24th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	March, 1923.	March, 1922.	March, 1921.
Gross output KWH:			
Gatun hydroelectric station	4,816,000	4,728,100	6,328,600
Miraflores steam plant	100	400	12,010
Power distributed to consumers ... KWH	4,123,009	3,983,218	5,323,254
Loss of power in plant auxiliaries, transmission and transformation ... KWH	693,101	745,282	1,017,356
Per cent of loss of power to gross output	14.39	15.76	16.04
Water consumption ... cubic feet	3,567,034,663	3,687,402,000	4,559,456,500
Oil consumption ... barrels	1,225	1,911	2,162

Miscellaneous electrical repairs and installations of electrical equipment were made on 17 vessels during the month. There were 246 work orders issued for work to be performed by the Electrical Division during the month, as compared with 227 for the previous month.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 42 vessels at Cristobal and 40 vessels at Balboa shops. Of these, 4 were placed in dry dock at Cristobal and 5 at Balboa.

The more important items of repair work performed during the month included the following: Substantial progress was made in the general overhaul of the steamship *Colon*, and most of the dismantling to admit of new work was accomplished. The old boilers were removed from the vessel on March 12. The crank and the thrust shafts of both main engines were removed for truing up. The cold storage rooms were completely demolished to be replaced by new.

A broken propeller shaft was removed from the steamship *Cerro Ebano*, and a spare propeller shaft was installed, together with spare propeller hub, to which the blades from the dropped propeller were fitted. While entering Gatun Locks, the propeller shaft on this vessel broke inside the propeller hub and the propeller was dropped. Instead of going overboard, however, the propeller lodged in the propeller opening with two blades straddling the rudder post, where it remained until the ship was placed in dry dock.

The steamship *Mina Brea*, which had been laid up in Canada for a number of months, was dry-docked and given a general overhaul. The steamship *Benjamin Brewster* was also docked and given a general overhaul. The U. S. S. *Cuyama:* manufactured new crank shaft and 2 brass pump runner shafts; welded and bored pump runner to fit new shaft; manufactured 2 brass bushings and rebabbitted 2 bearings

for circulating engine; removed niggerhead from shaft; cast and machined new gear and installed on shaft for capstan. Steamship *Balboa*: docked, cleaned, and painted; overhauled all sea valves and packed stern gland; manufactured 8 springs and stud for main engine; rebabbitted main journal cap for main engine. Steamship *Venezuela:* welded crack in after starboard boiler; repaired crank shaft bearing and faced off coupling on crank shaft on fan engine; renewed miscellaneous piping and manufactured 12 grate bars.

The output of the foundry in patterns and castings, as compared with the preceding month, was as follows:

	March, 1923.			February, 1923.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	22	395	25,381	8	167	19,392
Steel	.....	112	13,143	1	197	7,510
Nonferrous	12	672	7,451	9	2,393	4,272

The following is a statement of all jobs and blanket orders issued and completed during March:

	Uncompleted March 1.	Authorized in March.	Completed in March.	Uncompleted April 1.
Job orders	430	470	506	394
Blanket orders	346	.....	1	345

MUNICIPAL ENGINEERING.

The total amount of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, the sales of water to vessels, are shown below in comparative form:

	March, 1923.	March, 1922.	March, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	781,838,250	686,383,250	834,072,750
Filtration plants	447,734,000	402,585,000	511,274,000
Water consumed by Panama City	94,535,000	82,952,000	102,527,000
Water consumed by Colon	68,764,000	58,020,500	58,570,500
Sales of water to vessels	14,185,672	9,470,092	11,923,740

DREDGING.

East and West Culebra slides showed slight surface movements during the month. A total of 194,850 cubic yards of material was removed from the basin at the foot of East Culebra slide during the month, making a grand total of 734,000 cubic yards removed from basin and prism as a consequence of the slide of December 21, 1922.

All other slides, including Cucaracha, were quiescent, and there was no interference with Canal traffic from slides during the month.

At La Pita Point, 43,450 cubic yards of material were removed during the month, making the total excavation to date, 407,050 cubic yards.

The total excavation during March was 335,021 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Station.	Equipment.
	Earth.	Rock.			
18,200	3,600	14,600	Maintenance	La Pita Point Improvement project	*Paraiso.*
25,250	5,050	20,200	Maintenance	La Pita Point Improvement project	*Gamboa.*
25,300	10,100	15,200	Maintenance	Whitehouse slide—Gaillard Cut	*Gamboa.*
18,300	5,500	12,800	Maintenance	East Culebra slide—Gaillard Cut	*Gamboa.*
36,000	10,800	25,200	Maintenance	East Culebra slide—Gaillard Cut	*Paraiso.*
140,550	49,200	91,350	Maintenance	East Culebra slide—Gaillard Cut	*Cascadas.*
64,650	64,650	.....	Maintenance	North of Pedro Miguel locks	*No. 86.*
6,000	6,000	.....	Maintenance	Miraflores Lake	*No. 86.*
771	771	.....	Auxiliary	Dredging sand at Chame	*La Valley.*
335,021	155,671	179,350			

VITAL STATISTICS.

A total of 140 deaths occurred during the month of March, 1923, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to an annual death rate of 13.65 per thousand. The leading causes of death were:

tuberculosis 31, diarrhea and enteritis 15, organic diseases of the heart 15, pneumonia (broncho and lobar) 11, nephritis (acute and chronic) 9.

Of the total deaths, 47, or 33 per cent, occurred among children under 5 years of age. There were 17 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 257 live births reported during the month, and 13 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 26.27 per 1,000 population. Deaths among children under 1 year of age numbered 31, giving an infant mortality rate of 120.62 per 1,000 live births.

The total number of malaria cases reported during the month was 102. Of these, 5 cases were reported from Panama City, 59 from the Canal Zone, and 38 originated outside of our sanitated area. Of the total, 7 were employees, 28 nonemployees, and 67 were Army and Navy. There were 2 deaths from malaria during the month.

OCCUPANTS OF QUARTERS.

The number of persons occupying Panama Canal and Panama Railroad quarters, shown in comparative form, was as follows:

	As of March 31, 1923.			Comparative totals.		
	Men.	Women.	Children.	March, 1923.	March, 1922.	March, 1921.
Americans	2,372	1,904	2,044	6,320	6,527	8,290
Europeans	77	24	68	169	236	245
West Indians	4,098	2,716	5,963	12,777	12,120	11,666
Totals, March, 1923	6,547	4,644	8,075	19,266	.....	.....
Totals, March, 1922	6,510	4,487	7,886	.....	18,883	.....
Totals, March, 1921	8,452	4,581	7,168	.....	.....	20,201

WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of March 21, 1923, by departments, together with a comparison of the working force for the preceding month and that of March, 1922:

	As of March 21, 1923.		Total employees.		
	Gold.	Silver.	March, 1923.	February, 1923.	March, 1922.
Operation and Maintenance:					
Office	29	54	83	75	84
Electrical	144	229	373	345	311
Municipal Engineering	71	471	542	568	600
Lock Operation	180	645	825	782	849
Dredging	135	813	948	912	757
Mechanical	320	641	961	907	838
Marine	160	445	605	579	511
Fortifications	15	103	118	148	341
Totals	1,054	3,401	4,455	4,316	4,291
Supply Department:					
Transportation	33	154	187	189	173
Quartermaster	132	922	1,054	1,025	929
Subsistence	7	134	141	115	226
Commissary	161	921	1,082	1,028	950
Cattle Industry—Plantations	7	318	325	341	356
Hotel Washington	8	92	100	99	94
Totals	348	2,541	2,889	2,797	2,728
Accounting Department	181	8	189	191	181
Health Department	214	711	925	919	961
Executive Department	472	249	721	722	739
Totals	867	968	1,835	1,832	1,881
Panama Railroad Company:					
Superintendent	48	285	333	265	297
Transportation	64	110	174	170	175

	As of March 21, 1923.		Total employees.		
	Gold.	Silver.	March, 1923.	February, 1923.	March, 1922.
Panama Railroad Company—Continued.					
Receiving and Forwarding Agent	73	796	869	684	611
Coaling Stations	79	644	723	767	585
Totals	264	1,835	2,099	1,886	1,668
Grand totals, March, 1923	2,533	8,745	11,278	.....	.....
Grand totals, February, 1923	2,531	8,300	.....	10,831	.....
Grand totals, March, 1922	2,628	7,940	.....	.....	10,568

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month, as compared with the preceding month and the corresponding month a year ago, were as follows:

	March, 1923.	February, 1923.	March, 1922.
Material received on U. S. requisitions:			
For Department of Operation and Maintenance	$225,532.86	$124,361.51	$92,935.36
For other Canal departments	3,881.16	4,189.72	1,702.52
Totals	229,414.02	128,551.23	94,637.88
Cash sales on the Isthmus:			
Stock	36,318.04	21,973.48	30,056.34
Fuel oil	877.42	394.14	67.62
Scrap	1,505.69	1,600.25	902.88
Obsolete and second-hand material	1,151.68	11,938.10	4,156.89
Totals	39,852.83	35,905.97	35,183.73

Respectfully,
JAY J. MORROW,
Governor.

Return of the "President Hayes."

The steamship *President Hayes*, which transited the Canal on February 6 on a maiden voyage which opened direct passenger service between Pacific ports of North America and Atlantic ports of South America, made the return trip through the Canal on April 12.

Among the more important items of cargo carried on her return voyage were 2,232 tons of coffee, 1,407 tons of fertilizer, 2,000 tons of linseed, and 910 tons of raw hides. At Cristobal, 2,265 bunches of bananas grown on the shores of Gatun Lake were laden for discharge at Los Angeles.

The *President Hayes* carried 65 first-class and 7 third-class through passengers.

The "Rotorua" Added to New Zealand Shipping Company's Passenger Service.

The steamship *Rotorua* made her first passage through the Canal in the service of the New Zealand Shipping Co. on April 12, coming out from London via Southampton for Wellington. The *Rotorua* was formerly the *Shropshire* of the Federal Steam Navigation Co., built in 1911, but has been extensively overhauled, with the installation of oil-burning equipment and improved passenger accommodations. She is a vessel of 12,184 gross tons, registry measurement, 526 feet in length by 61 feet beam. On her first trip she carried 7,922 tons of general cargo, 34 first-class and 383 third-class passengers.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending April 21, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Balboa	Compania Constancia Colombiana.		April 8		38
Zenon	French Line		April 8		149
Calamares	United Fruit Co	April 8	April 8	(1)	63
Camden	United Fruit Co	April 8	April 9	5,047	(2)
Atenas	United Fruit Co	April 8	April 9	151	315
Almelo	Royal Netherlands W. I. Mail	April 8	April 9	40	300
Imperial	Chilean Line	April 8	April 12	139	896
Newport	Pacific Mail Steamship Line	April 9	April 14	1,155	1,112
Van Rensselaer	Royal Netherlands W. I. Mail	April 9	April 9	3	14½
Venezuela	Pacific Mail Steamship Co	April 9	April 10	338	1
Panama	Panama Railroad Steamship Line		April 10		3,185
Pastores	United Fruit Co	April 10	April 11	856	1,253
Heredia	United Fruit Co	April 10	April 12	812	49
Ares	Royal Netherlands W. I. Mail	April 10	April 11	248	14
Manuel Calvo	Spanish Line	April 10	April 12	177	1,127
Haiti	French Line	April 10	April 12	17	389
San Gil	United Fruit Co	April 10	April 12	15	100
Median	Leyland Line	April 10	April 14	399	(2)
Mineola	Grace Line	April 11	April 11	33	(2)
Sixaola	United Fruit Co	April 11	April 12	10	261
Santa Elisa	Grace Line	April 11	April 12	10	(2)
Solana	Pacific Mail Steamship Co	April 11	April 13	10,000	(2)
Parana	Danish East Asiatic Co	April 12	April 13	57	(2)
Norden	N. O. & S. A. S. S. Line	April 12	April 13	265	97
Cristobal	Panama Railroad Steamship Line	April 12		1,882	
Metapan	United Fruit Co	April 12	April 12	1	23
Atenas	United Fruit Co	April 12	April 12	1	96
Santa Teresa	Grace Line	April 13	April 13	44	(2)
Van Rensselaer	Royal Netherlands W. I. Mail	April 13	April 14	(1)	614
Orita	Pacific Steam Navigation Co	April 14	April 14	29	42
Camito	Elders & Fyffes, Ltd	April 14	April 14	11	(2)
Acajutla	Pacific Steam Navigation Co		April 14		841
Santa Clara	Pacific Mail Steamship Co	April 14	April 14	(1)	46
Pastores	United Fruit Co	April 15	April 15	¼	66
Saint Jean	French Line	April 15	April 15	15	(2)
Zacapa	United Fruit Co	April 15	April 16	(1)	860
Alvarado	Pacific Steam Navigation Co	April 16	April 16	104	(2)
Sesostris	Kosmos Line	April 16	April 17	31	(2)
Haimon	Kosmos Line	April 16	April 17	174	(2)
Cristobal	Panama Railroad Steamship Line		April 18		1,196
Ulua	United Fruit Co	April 17	April 18	280	255
Magellan	Pacific Steam Navigation Co	April 17	April 18	46	86
Carrillo	United Fruit Co	April 18	April 19	3½	218
Parismina	United Fruit Co	April 18	April 19	900	168
City of Para	Pacific Mail Steamship Co	April 18		2,640	
Antiochia	Hamburg-American Line	April 18	April 18	191	(2)
San Benito	United Fruit Co	April 18	April 19	(1)	44
Venezuela	Italian Line	April 18	April 20	132	(2)
Balboa	Compania Costancia Colombiana	April 18	April 20	418	51
Dean Emery	Pan-American Pet. & Transp. Co	April 18	April 20	6,000	(2)
Sixaola	United Fruit Co	April 19	April 19	½	¼
Zacapa	United Fruit Co	April 19	April 19	14	96
Albaro	Italian Line	April 19	April 21	11	2,212
Mantaro	Peruvian Line	April 19		1,207	
Ballena	Pacific Steam Navigation Co	April 19	April 21	33	296
Aconcagua	Chilean Line	April 19	April 20	(1)	408
Poseiden	Royal Netherlands W. I. Mail	April 19	April 21	(1)	646

[1] No cargo discharged. [2] No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending April 21, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo. Discharged	Cargo. Laded.
				Tons.	*Tons.*
Pennsylvania Sun	Sun Oil Co	April 7	April 8		49
Jeptha	General Steamship Corporation	April 9	April 9	5	
Newport	Pacific Mail Steamship Co	April 9	April 9	17	
Mineola	Grace Line	April 11	April 11		57
Venezuela	Pacific Mail Steamship Co	April 10	April 11	6	7
Anomia	Anglo-Saxon Petroleum Co	April 12	April 14	6,769	
Newport	Pacific Mail Steamship Co	April 14	April 14	13	
Ancon	Panama Railroad Steamship Line	April 16		10,060	
City of Para	Pacific Mail Steamship Co	April 18	April 18	39	
Baja California	Latin-American Line	April 18	April 19	280	
Olockson	Boston Iron & Metal Co	April 4	April 19		2,611

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 21, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Alvarado	14	16.45	15	6.15	15	17.58	16	0.15	American	Pacific Transport Co	245.0	41.5	17.0	Mobile	San Francisco	General	2,380	2,122	1,504
Dakotan	14	17.30	15	7.15	15	20.00	16	0.39	American	American-Hawaiian Line	407.7	53.2	24.0	New York	Los Angeles	General	5,325	7,156	5,058
Trelissick	14	18.50	15	8.40	15	21.06	15	22.36	British	Hain Steamship Co	399.0	52.0	25.0	New York	Brisbane	General	5,901	5,804	4,066
Lio	14	21.40	15	10.04	15	21.44	15	22.35	American	McAllister Brothers (S. B.)	431.0	59.0	20.0	New Orleans	San Francisco	Ballast		7,817	5,082
Gymeric	14	17.57	15	10.25	15	22.34	15	23.40	British	Andrew Weir & Co	420.3	54.6	20.5	Thameshaven	San Francisco	Ballast		6,501	4,459
Hatimura	15	12.10	15	12.20	15	23.41	16	1.14	British	British India Steam Nav. Co	410.7	55.5	27.0	Galveston	Kobe	General	9,050	6,813	4,890
E. T. Bedford	15	13.17	15	13.25	15	0.26	16		American	Standard Oil Co	499.2	68.1	20.0	New York	Los Angeles	Ballast		11,009	7,967
Canoe	15		15	6.10	15				American	E. P. Lewis				Cristobal	Balboa	Ballast		1	1
T. J. Williams	15	20.15	16	6.20	16	16.40	16	17.38	American	Standard Oil Co	465.4	60.2	23.0	New York	Los Angeles	Ballast		8,585	6,087
Ancon	15	21.45	16	7.13	16	17.47			American	Panama Railroad Steamship Line	489.0	58.0	29.0	Norfolk	Balboa	Coal	10,060	10,157	7,689
Norlina	16	8.40	16	8.40	16	18.22	16	23.03	American	Garland Steamship Corporation	385.0	51.1	24.0	New York	Los Angeles	General	3,078	5,466	4,181
Radames	16	10.35	16	13.10	16	20.21	16	21.39	German	Kosmos Line	380.8	47.0	23.0	Hamburg	Guayaquil	General	3,849	4,971	3,486
Mathilde [1]	16		16		16	15.12			American	United Fruit Co				Cristobal	Gatun Lake	Ballast		2	2
Mary J. [1]	15		16		16	15.12			American	J. Walker				Cristobal	Gatun Lake	Unknown		1	1
Affinity [2]			16		16	15.12			American	E. J. Hooper	29.0	9.0		Cristobal	Gatun Lake	Ballast		4	4
No. 2207 [2]	15		16		16	15.12			American	J. Walker				Cristobal	Gatun Lake	Unknown		3	3
Sesostris	16	9.03	17	6.10	17	15.49	17	17.05	German	Kosmos Line	365.0	50.0	20.0	Antwerp	Puntarenas	General	1,300	4,979	3,381
Ardmore	16	15.27	17	7.44	17	16.39	17	18.05	American	Standard Oil Co	449.5	59.6	21.0	New York	Talara	Ballast		8,612	6,457
Lord Ormonde	16	15.30	17	8.35	17	18.32	17	20.04	British	F. T. Walker	360.0	46.0	16.0	New York	Puntarenas	R. R. Machinery	151	4,563	3,406
J. N. Pew	16	21.48	17	9.50	17	19.13	18	1.20	American	Sun Oil Co	480.5	66.0	19.6	Chester	Los Angeles	Ballast		9,494	6,612
Birmingham City	17	4.10	17	10.55	17	21.31	17	22.41	American	U. S. Steel Products Co	395.0	55.0	27.7	New York	San Diego	General	6,909	6,841	4,686
Andrea F. Luckenbach	17	14.15	18	6.30	18	14.20	18	15.20	American	Luckenbach Line	496.0	68.2	22.3	New York	Los Angeles	General	6,300	11,487	8,762
Elder Branch	17	19.15	18	7.18	18	15.38	18	18.35	British	Nautilus Steamship Co	380.3	49.7	19.0	Liverpool	Guayaquil	General	2,632½	4,951	3,592
Warwick	17	23.15	18	9.00	18	17.35	18	18.30	American	Union Oil Co	340.0	49.0	26.0	New Orleans	Los Angeles	Ballast		4,614	2,935
Magellan	17	22.27	18	12.00	18	19.04	18	19.56	British	Pacific Steam Navigation Co	461.6	59.3	23.8	Hamburg	Corral	Coal and general	4,690	8,817	6,063
Orleans	18	17.37	19	6.24	19	14.25	19	17.50	American	Orleans Steamship Co	395.5	55.0	26.0	Philadelphia	Los Angeles	General	8,050	7,330	5,233
Livingston Roe	19	2.45	19	7.40	19	15.14	19	16.10	American	Standard Oil Co	463.3	60.0	20.0	New York	Los Angeles	Ballast		8,491	6,065
Argosy	19	6.55	19	8.25	19	16.11	20	0.26	American	Wessel, Duval & Co	390.0	54.0	20.0	New York	Paita	Coal, gas, gen	4,295	6,203	4,280
Chuky	19	8.30	19	9.50	19	17.53	19	21.15	British	Sheridan Steamship Co	440.0	56.0	26.4	Tampico	Tocopilla	Crude oil	9,654	7,691	4,723
Neponset	19	9.15	19	10.53	19	18.40	20	0.56	American	A. E. Mittnacht (S. B.)	434.0	57.6	22.0	Philadelphia	Los Angeles	General	4,342	7,893	5,621
Nitro [3]	19	14.27	20	6.20	20	13.21	21	7.49	American	U. S. Navy	459.0	61.0	21.9	Norfolk	San Diego	General	1,394		
Aconcagua	19	4.20	20	7.05	20	14.16	20	15.15	Chilean	Chilean Line	422.8	56.2	24.5	New York	Valparaiso	General	1,646	7,758	4,705
Imlay	20	0.37	20	6.20	20	13.21	20	20.47	American	Walker & Daly (S. B.)	425.0	57.0	24.0	New York	Los Angeles	Ballast		7,218	4,959
Dean Emery	18	23.37	20	8.28	20	16.08	20	17.25	American	Pan-American Petroleum Co	429.0	58.0	18.8	New Orleans	Los Angeles	Ballast		7,527	5,335
Balboa	18	21.05	20	9.20	20	17.02	20	18.49	Colombian	Cia. Costancia Colombiana	190.0	29.1	11.6	Cristobal	Buenaventura	General	38	737	335
Howick Hall	20	7.22	20	9.45	20	17.44	20	18.45	American	U. S. Steel Products Co	400.8	51.6	26.8	Baltimore	Los Angeles	Steel	7,007	6,095	4,381

[1] Launch. [2] Barge. [3] Supply ship.

Venezuela	18	9.00	20	10.40	20	18.30	20	19.27	Italian	La Veloce Line	437.2	51.6	23.10	Genoa	Valparaiso	General	543	7,622	5,051
District of Columbia	20	15.29	21	6.27	21	14.01	21	18.00	American	Walker & Daly (S. B.)	431.0	59.2	18.0	Fall River	Los Angeles	Ballast	.....	8,097	5,362
W. S. Rheem	20	18.40	21	7.25	21	14.55	21	16.15	American	Standard Oil Co	500.0	68.2	21.0	New York	Los Angeles	Ballast	.....	11,224	7,860
Nordlys	21	1.20	21	8.40	21	15.55	21	17.25	Danish	Peter Brown	362.0	51.0	14.0	Newport News	Antofagasta	Ballast	.....	4,932	3,468
Argon	21	8.27	21	9.10	21	16.30	21	17.37	American	Standard Transportation Co	435.0	56.0	18.0	New York	Los Angeles	Ballast	.....	7,386	5,137
Montrolite	21	6.45	21	10.00	21	17.27	21	18.30	British	Imperial Oil Co	430.0	57.0	18.0	Halifax	Talara	Ballast	.....	7,378	5,045
Dominion Miller [4]	21	9.35	21	10.32	21	18.12	21	21.55	British	Norfolk & North Amer. S. S. Co.	420.0	54.0	26.0	London	Los Angeles	General	8,900	6,996	5,306
Port Kembla	21	12.02	21	12.20	21	19.16	21	20.46	British	Commonwealth & Dom. Line	481.0	62.0	30.0	London	Auckland	General	8,500	10,805	8,167

[4] Motor ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Eldorado	14	15.00	15	7.15	15	14.05	15	16.47	American	Swayne & Hoyt	245.5	42.0	15.6	Ancortes	Mobile	Lumber, general.	1,900	2,439	1,662
Cerro Ebano	14	19.30	15	8.03	15	16.10	15	16.10	American	Huasteca Oil Co	480.8	66.0	28.6	San Pedro	New Orleans	Crude oil	12,378	9,389	6,453
Port Curtiss	14	21.00	15	9.20	15	17.20	15	18.35	British	Cunard Line	449.0	53.0	28.0	Wellington	New York	Cold storage	7,286	8,500	6,140
Grant	14	21.47	15	9.28	15	17.33	17	13.00	American [4]	U. S. Army	509.7	53.3	24.9	San Francisco	New York	Miscellaneous	642	.....	.....
Saint Jean	15	4.00	15	10.35	15	18.35	15	21.00	French	French Line	415.0	50.3	25.6	Valparaiso	Bordeaux	Nitrate, general.	7,193	5,149	4,081
William Perkins	14	22.30	15	10.54	15	19.39	15	20.25	American	Garland Steamship Corporation.	499.8	54.2	26.0	Astoria	New York	Copper, lumber.	5,120	6,757	4,803
Tistem	15	3.00	15	12.04	15	20.54	15	20.54	American	Atlantic Refining Co	425.0	57.2	27.0	Port San Luis	Philadelphia	Crude oil	(6)	7,294	4,768
Ida [5]	.....	.....	15	9.50	15	12.51	.....	.....	American	C. A. Blair	.....	.....	.....	Pedro Miguel	Gatun	.....	.....	.....	.....
Munrio	15	10.10	15	12.58	15	21.44	16	1.00	American	Munson Line	333.6	48.2	22.6	Portland	New York	Lumber	4,809	4,165	3,066
Rhodopis	15	9.30	15	13.24	16	14.47	16	17.45	German	Kosmos Line	436.0	53.0	26.9	Corral	Hamburg	Nitrate, general.	6,855	7,525	5,154
Eurana	15	12.23	15	14.37	15	22.45	15	24.00	American	International Mercantile Marine.	419.5	56.5	25.6	San Pedro	New York	Crude oil	9,200	6,989	4,976
San Fraterno	15	17.45	16	7.49	16	16.40	16	16.40	British	Eagle Oil Transport. Co	527.3	66.6	28.6	San Pedro	Tampico	Crude oil	15,745	12,050	8,621
Haimon	15	22.20	16	8.25	16	17.44	17	13.39	German	Roland Line	361.0	44.8	18.1	Champerico	New York	General	1,829	4,350	3,117
Alvarado	16	9.00	16	10.45	16	17.57	16	21.18	British	Pacific Steam Navigation Co	303.0	43.0	15.6	Guayaquil	New York	General	942	2,844	1,748
Birk	16	9.40	16	11.20	16	10.18	16	19.18	Norwegian	Roderrett Odfeell	395.8	52.1	23.8	Iquique	New Orleans	Nitrate	6,950	4,751	3,160
Agwistone	16	0.45	16	12.08	16	20.32	16	20.32	American	Ward Line	499.5	68.1	28.8	San Pedro	New York	Crude oil	16,036	10,600	7,833
Willpolo	16	0.20	16	12.19	16	21.45	16	21.45	American	Williams Steamship Co	386.8	52.2	24.0	San Francisco	New York	Lumber, general.	6,127	5,689	4,080
Pennsylvanian	16	17.50	17	6.58	17	14.40	17	14.40	American	American-Hawaiian Line	407.7	53.7	24.6	Bellingham	Boston	General	4,892	7,107	4,916
William Rockefeller	16	17.50	17	7.58	17	18.00	17	18.00	American	Standard Oil Co. of N. J.	554.9	75.3	31.9	Los Angeles	New York	Crude oil	20,000	14,785	10,313
Vicolite	17	7.00	17	8.44	17	18.10	17	18.10	British	Imperial Oil Co	500.4	68.0	32.0	San Pedro	Montreal	Crude oil	14,900	11,049	7,732
Rotarian	16	22.04	17	10.25	17	20.00	17	20.00	American	Wessel, Duval & Co	389.3	53.1	23.9	Taltal	New Orleans	Nitrate	6,728	5,660	4,059
Orcoma	17	9.15	17	11.25	17	19.10	18	10.50	British	Pacific Steam Navigation Co	510.0	62.0	27.6	Valparaiso	Liverpool	General	5,104	12,267	7,942
Thomas P. Beal	17	11.32	17	12.11	17	20.52	17	22.33	American	C. and T. Intercoastal Line	394.1	55.1	27.0	Portland	Baltimore	Lumber, general.	8,054	7,047	5,100
Agwisca	17	12.20	17	15.22	18	0.05	18	0.05	American	Ward Line	468.3	62.7	28.0	Los Angeles	New York	Crude oil	12,500	9,802	6,867
Steelore	17	12.00	17	16.03	18	14.18	18	16.05	American	Ore Steamship Co	550.3	72.2	32.0	Cruz Grande	Baltimore	Iron ore	19,000	15,551	4,297
Cayuca No.2396	.....	.....	16	9.00	17	14.45	.....	.....	American	Louis Orictiles	.....	.....	.....	Balboa	Cristobal	.....	.....	.....	.....
I. C. White	17	16.10	18	6.46	18	15.40	18	17.15	American	Huasteca Petroleum Co	429.3	59.2	27.0	San Pedro	New Orleans	Crude oil	12,570	7,924	5,730
Batoe	17	17.15	18	7.51	18	15.40	18	17.00	Dutch	Steamship Co. of Netherlands.	420.0	55.0	24.3	Caleta Colosa	Alexandria	Nitrate	7,226	7,002	4,944
Sadurco	17	7.15	18	8.31	18	16.12	18	20.55	American	Submarine Boat Corporation	324.0	46.2	22.0	Portland	Poughkeepsie.	Lumber	3,709	3,984	2,636
H. M. Flagler	17	19.55	18	8.39	18	17.30	18	21.55	American	Standard Oil Co	461.6	60.0	27.6	Talara	Vallo, Norway	Oil in bulk	11,096	8,450	6,089
City of Auckland	17	22.00	18	9.03	18	17.02	19	19.54	British	Ellerman-Hall Line	378.6	62.2	26.8	San Francisco	Hull	General	10,000	9,394	6,723
Wm. G. Warden	18	1.00	18	10.36	18	18.45	18	18.45	American	Standard Oil Co	500.0	68.2	29.2	Los Angeles	Baltimore	Crude oil	15,850	10,524	7,600
Atlantic Maru	18	2.00	18	11.09	18	19.53	18	20.35	Japanese	Kawasaki Kisen Kaisha	385.0	51.0	26.10	Antofagasta	Norfolk	Nitrate	8,295	8,295	4,700

[4] Launch. [6] 76,900 barrels.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
City of Para	18	5.34	18	12.08	18	21.35	...	...	Panaman	Pacific Mail Steamship Co	345.0	38.6	23.7	Champerico	Cristobal	Coffee, general	2,640	3,739	2,163
Balboa	18	4.00	18	12.29	18	21.05	20	9.20	Colombian	Compania Costancia Colombiana	190.0	29.1	15.6	Tumaco	Colombian pts.	General	425	737	335
Hogoton	18	11.00	18	14.57	18	22.33	18	22.33	American	Walker & Daly	434.8	56.2	26.6	San Pedro	Fall River	Crude oil	6,937	7,429	5,141
G. Harrison Smith	13	21.30	14	15.48	19	17.35	20	6.25	British	International Petroleum Co	550.2	72.0	33.0	Cruz Grande	New York	Iron ore	20,600	15,476	11,102
Albaro	18	15.00	19	6.52	19	15.35	21	16.54	Italian	La Veloce Line	323.8	40.0	16.0	Valparaiso	Colon [7]	General	108	3,039	2,090
Ballena	18	20.30	19	7.47	19	15.10	20	1.20	British	Pacific Steam Navigation Co	400.1	52.0	23.0	Callao	London	Sugar, general	6,242	5,816	4,113
Cold Harbor	19	5.00	19	8.05	19	17.05	19	17.05	American	North Atlantic & West. S. S. Co.	390.0	54.2	23.0	Seattle	New York	Lumber, general.	3,560	6,167	4,290
Olockson	4	...	19	10.00	19	8.54	...	...	American	Boston Iron & Metal Co	401.4	53.2	19.0	Balboa	Gatun Lake	...	...	...	...
Cayuca	...	...	19	8.25	19	14.40	...	...	American	R. H. Hull	...	...	...	Balboa	Frijoles	Ballast	...	...	...
Agwihavre	19	1.30	19	11.25	19	19.15	19	19.15	American	Ward Line	480.5	66.0	29.0	San Pedro	New York	Crude oil	13,750	9,394	6,305
Foldenfjord	19	5.15	19	12.13	19	20.49	19	20.49	Norwegian	Norwegian-American Line	430.4	59.3	26.9	San Pedro	London	Benzol	10,700	7,780	5,520
Mantaro	19	3.40	19	14.53	19	22.10	23	11.15	Peruvian	Peruvian Line	367.3	46.0	17.9	Iloilo	Cristobal	General	1,207	4,838	2,959
Edward L. Doheny, Jr.	19	17.15	20	7.09	20	14.58	20	14.58	American	Huasteca Oil Co	467.6	62.7	29.6	Los Angeles	New Orleans	Crude oil	13,277	9,423	6,989
Maine	20	22.45	21	7.53	21	15.25	21	15.25	American	Argonaut Steamship Co	402.0	54.2	28.0	Tacoma	Boston	Lumber, general.	7,376	6,936	4,998
John Worthington	21	1.56	21	8.07	21	17.08	21	17.08	American	Standard Oil Co	464.0	60.2	27.8	San Pedro	New York	Crude oil	12,000	8,491	6,096
Dillwyn	20	22.00	21	10.39	21	18.05	21	18.05	American	Walker & Daly	435.0	56.0	26.0	San Pedro	New York	Fuel oil	10,000	7,441	5,180
Robert E. Hopkins	21	5.25	21	10.51	21	19.20	21	19.20	American	Tidewater Oil Co	424.4	58.2	26.5	Los Angeles	New York	Crude oil	10,266	7,333	5,244

[7] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
April 15	Zacapa	United Fruit Co	New York via Habana.	April 15	Pastores	United Fruit Co	New York via Habana.
April 15	Pastores	United Fruit Co	Port Limon.	April 15	Fulton	U. S. Navy	Almirante Bay.
April 17	Ulua	United Fruit Co	New York via Habana.	April 16	Zacapa	United Fruit Co	Bocas del Toro.
April 18	Parismina	United Fruit Co	New Orleans via Habana.	April 18	Cristobal	Panama Railroad Steamship Line	New York via Haiti.
April 18	Antiochia	Hamburg-American Line	Hamburg via wayports.	April 18	Antiochia	Hamburg-American Line	Port Limon.
April 18	San Benito	United Fruit Co	Boston via Habana.	April 18	Ulua	United Fruit Co	Port Limon.

*Other than ships passing through the Canal.

MOVEMENTS OF OCEAN VESSELS.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
April 18	Carrillo	United Fruit Co.	New York via Kingston.
April 19	Poseidon	Royal Dutch W. I. Mail Co.	Puerto Barrios.
April 19	Zacapa	United Fruit Co.	Bocas del Toro.
April 19	Sixaola	United Fruit Co.	Colombian ports.
April 21	Ulysses [8]	Panama Railroad Steamship Line.	Norfolk.

*DEPARTURES.

Date.	Vessel.	Line.	For—
April 18	Arabia [9]	San Blas Trading Co.	Colon.
April 19	Carrillo	United Fruit Co.	Colombian ports.
April 19	Parismina	United Fruit Co.	New Orleans via wayports.
April 19	San Benito	United Fruit Co.	Boston via Port Limon.
April 19	Zacapa	United Fruit Co.	New Orleans.
April 19	Sixaola	United Fruit Co.	New York via Kingston.
April 21	Poseidon	Royal Dutch W. I. Mail Co.	Europe.

[8] Collier. [9] Motor schooner.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
April 17	Guardian	All-America Cable Co.	Callao.
April 18	Baja California	Latin-American Line	San Francisco.

Date.	Vessel.	Line.	For—
April 19	Baja California	Latin-American Line	Buenaventura.

* Other than ships passing through the Canal.

Official Circulars.

Appointment.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., April 10, 1923.

Effective April 16, 1923, Captain Alfred W. Hinds, U. S. N., is appointed Marine Superintendent, and Chairman of the Board of Admeasurement, *vice* Captain Earl P. Jessop, U. S. N., relieved from duty with The Panama Canal.

JAY J. MORROW,
Governor.

Parking of Vehicles Without Lights.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., April 24, 1923.

To all concerned—The parking of vehicles without lights being displayed is hereby prohibited along the entire extent of Gaillard Highway (that is, from Tivoli Avenue to the northern end of Gamboa) between the hours of 6 p. m. and 6 a. m.

Paragraph 3 (b) of Section VIII of the "Vehicle and Traffic Laws and Regulations in Force in the Canal Zone," published as a pamphlet on August 15, 1921, is amended accordingly.

JAY J. MORROW,
Governor.

Sale of Unclaimed Cargo.

ANCON, C. Z., April 10, 1923.

In accordance with an order signed by the Judge of the United States District Court for the Canal Zone, April 7, 1923, there will be sold at public sale at the Receiving and Forwarding Agency of the Panama Railroad Company in Cristobal on June 4, 1923, two consignments of chinchona bark of a total of 70,000 pounds, more or less, samples of which may be obtained from the Receiving and Forwarding Agent.

Samples of the bark recently tested have analysed 2½ per cent alkaloid but the purchaser must take it "as is" without reference to later analyses.

This bark will be sold for the recovery of storage charges that have accrued against it.

S. W. HEALD,
Superintendent Panama Railroad Co.

Sale of Oil Drums.

The Panama Canal offers for sale 300 drums which have been used for handling crude oil, larvacide, etc., at a price of $2 each, plus 25 per cent surcharge, f. o. b. Cristobal Storehouse, where these drums are located. Arrangements for purchase may be made with the Storekeeper, Supply Department, Cristobal, or the General Storekeeper, Balboa.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

Postal Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

Origin and Destination of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, March, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.							Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Asia.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America.																									
United States:																									
North Atlantic ports	9,450	193	854	2,691	8,102	21,290	193,417	118	272	8,342	262	4,630	207,041	25,986	12,435	522	39,184	78,127	2,204	39,461	4,034	45,699	2,120	354,277	52.22
South Atlantic ports							5,157						5,157	855	1,279			2,134		525		525		7,816	1.15
Gulf ports	4,743	10	35	704	103	5,595	45,046						45,046	41,546	17,234		6,999	65,779		400	5,260	5,660		122,080	17.99
Total, United States	14,193	203	889	3,395	8,205	26,885	243,620	118	272	8,342	262	4,630	257,244	68,387	30,948	522	46,183	146,040	2,204	40,386	9,294	51,884	2,120	484,173	71.36
East coast, Mexico	9,500					9,500					4,545		4,545											14,045	2.07
Cristobal, C. Z.[2]	1,765	439	667	1,482	979	5,332	290				2,699		2,989											8,321	1.22
West Indies									3,000				3,000											3,000	0.44
East coast, Canada																			994	4,973	10,500	16,467		16,467	2.42
Totals, North America	25,458	642	1,556	4,877	9,184	41,717	243,910	118	3,272	8,342	7,506	4,630	267,778	68,387	30,948	522	46,183	146,040	3,198	45,359	19,794	68,351	2,120	526,006	77.51
Europe.																									
Belgium	1,692		35	574		2,301	7,686			1,447			9,133											11,434	1.68
British Isles	5,856		334	4,468	4,980	15,638	12,287		1,447	780			14,514						40,504		5,880	46,384	7,979	84,515	12.46
Denmark							125						125											125	0.02
France	645				677	1,322	175	3	22				200											1,522	0.22
Germany	735		233	188	3,274	4,430	495	300	200		638		1,633											6,063	0.89
Holland							1,045						1,045											1,045	0.15
Italy				2		2	1,695						1,695											1,697	0.25
Norway–Sweden							7,475					384	7,859											7,859	1.18
Spain					38	38																		38	
Europe[3]	2,020			211	18,654	20,885	6,083		147	2,831			9,061											29,946	4.41
Totals, Europe	10,948		602	5,443	27,623	44,616	37,066	303	1,816	5,058	638	384	45,265						40,504		5,880	46,384	7,979	144,244	21.26

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

East coast, South America	63	400	.....	66	.....	529	7,448	....	134	.....	.....	.....	7,582	127	.....	....	.....	127	.....	.....	.....	.....	.....	8,238	1.2
Grand totals	36,469	1,042	2,158	10,386	36,807	86,862	288,424	421	5,222	13,400	8,144	5,014	320,625	68,514	30,948	522	46,183	146,167	43,702	45,359	25,674	114,735	10,099	678,488	100.00
Per cent of total cargo:																									
March, 1923	5.38	0.15	0.32	1.53	5.43	12.80	42.51	....	0.77	1.98	1.20	0.74	47.25	10.10	4.56	0.07	6.81	21.54	6.44	6.69	3.78	16.91	1.50	100.00	.....
March, 1922	8.40	0.10	0.85	1.49	0.33	11.17	30.26	0.80	5.94	.....	0.5	1.42	38.92	27.97	8.80	0.25	0.62	37.64	7.93	3.29	.....	11.22	1.04	.....	.....
March, 1921	16.40	0.10	0.60	1.50	4.80	23.4	18.00	1.50	4.40	.....	0.4	6.30	30.60	9.40	5.90	1.30	6.70	23.30	11.40	5.80	5.5	22.7	.....	.....	.....

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, March, 1923.

(Figures represent tons of 2,240 pounds.)

From—	North America.									Europe.													
	United States.																						
	North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.	East coast of Canada.	West Indies.	East coast of Mexico.	Cristobal, C. Z.[2]	Total, North America.	Belgium.	British Isles.	Denmark.	France.	Germany.	Holland.	Norway and Sweden.	Spain and Portugal.	Europe.[1]	Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																							
Chile	74,385	51,993	22,938	149,316	....	53	.....	82	149,451	.....	10,250	9	620	7,368	20,777	4,000	4,955	104,527	152,506	.....	301,957	23.9
Colombia	1,222	.....	.....	1,222	....	.....	.....	1,174	2,396	.....	.....	....	....	.....	.....	.....	.....	12	12	.....	2,408	0.2
Ecuador	858	.....	.....	858	....	.....	.....	1,051	1,909	24	62	1	....	132	35	.....	.....	184	438	.....	2,347	0.2
Peru	11,788	.....	.....	11,788	....	5,700	.....	3,017	20,505	1,307	10,016	....	....	27	10	.....	.....	6,757	18,117	.....	38,622	3.0
West coast of South America[1]	6,351	.....	.....	6,351	....	.....	.....	2,662	9,013	.....	479	....	8	133	.....	.....	.....	7,880	8,500	.....	17,513	1.4
Totals, South America	94,604	51,993	22,938	169,535	....	5,753	.....	7,986	183,274	1,331	20,807	10	628	7,660	20,822	4,000	4,955	119,360	179,573	.....	362,847	28.7
North America:																							
West coast of United States	587,746	39,672	36,775	664,193	....	1,188	17,697	7,666	690,714	468	52,362	....	....	1,779	518	13,673	.....	8,977	77,777	1,382	769,903	60.9
West coast of Canada	13,603	.....	.....	13,603	....	.....	.....	.....	13,603	75	30,369	....	....	80	727	.....	.....	.....	31,251	.....	44,854	3.5
West coast of Mexico	.....	.....	.....	.....	....	30	.....	26	56	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	56	.....
West coast of Central America	406	.....	.....	406	....	120	.....	7,195	7,721	.....	.....	77	....	2,937	.....	4,299	.....	.....	7,313	.....	15,034	1.2
West coast of North America[1]	12,606	.....	.....	12,606	....	41	.....	.....	12,647	.....	1,407	....	....	.....	.....	.....	.....	1,905	3,312	.....	15,959	1.3
Totals, North America	614,361	39,672	36,775	690,808	....	1,379	17,697	14,887	724,771	543	84,138	77	....	4,796	1,245	17,972	.....	10,882	119,653	1,382	845,806	66.9
Asia:																							
China	818	.....	.....	818	....	.....	.....	.....	818	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	818	0.1
Japan	1,791	.....	.....	1,791	....	.....	.....	.....	1,791	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	1,791	0.1
Philippines	4,350	.....	.....	4,350	....	.....	.....	.....	4,350	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	4,350	0.3
Far East[1]	14,541	.....	.....	14,541	....	.....	.....	.....	14,541	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	14,541	1.4
Totals, Asia	21,500	.....	.....	21,500	....	.....	.....	.....	21,500	.....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	21,500	1.7

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, March, 1923.—Continued.

(Figures represent tons of 2,240 pounds.)

From—	North America.									Europe.													
	United States.				East coast of Canada.	West Indies.	East coast of Mexico.	Cristobal, C. Z.[2]	Total, North America.	Belgium.	British Isles.	Denmark.	France.	Germany.	Holland.	Norway and Sweden.	Spain and Portugal.	Europe.[1]	Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
	North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.																			
Australasia:																							
Australia	4,646	.....	.....	4,646	....	.....	.....	.....	4,646	.....	.....	....	....	.....	.....	.....	....	.....	.....	.....	4,646	0.4
New Zealand	1,529	.....	.....	1,529	....	.....	.....	.....	1,529	.....	23,112	....	....	.....	.....	.....	....	.....	23,112	.....	24,641	1.9
Australasia[2]	2,602	.....	.....	2,602	398	.....	.....	.....	3,000	.....	.....	....	....	.....	.....	.....	....	.....	.....	.....	3,000	0.3
Totals, Australasia	8,777	.....	.....	8,777	398	.....	.....	.....	9,175	.....	23,112	....	....	.....	.....	.....	....	.....	23,112	.....	32,287	2.6
Grand totals	739,242	91,665	59,713	890,620	398	7,132	17,697	22,873	938,720	1,874	128,057	87	628	12,456	22,067	21,972	4,955	130,242	322,338	1,382	1,262,440	100.0
Percentage of total cargo:																							
March, 1923	58.4	7.3	4.7	70.4	....	0.6	1.4	1.8	74.2	0.2	10.1	....	0.1	1.0	1.7	1.7	0.4	10.4	25.6	0.1	.....	100.0
March, 1922	47.3	0.6	3.6	51.5	0.1	0.3	.....	3.1	54.9	1.0	29.8	0.3	3.6	5.5	.....	.....	....	4.6	44.9	0.2	.....	.....
March, 1921	25.9	6.2	2.1	34.2	1.2	0.2	.....	2.5	38.1	5.4	30.4	0.2	1.6	8.2	5.7	.....	0.3	9.8	61.9	.....	.....	.....

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., May 2, 1923. No. 38.

New Record for Month's Tolls.

Tolls collected on traffic passing through the Canal during April, 1923, established a new high record. The total was $1,878,938.15 on ocean-going ships and $49.30 on 16 launches, an aggregate of $1,878,987.45. The tolls on ocean ships exceeded by $51,219.71, the amount collected in March, 1923, the previous month of high record.

The commercial ocean traffic, by directions, was as follows:

Direction.	Vessels.	Tolls.
Atlantic to Pacific	204	$884,124.27
Pacific to Atlantic	200	994,813.88
Totals	404	1,878,938.15

The number of commercial ships was 5 less than the 409 in March, 1923, the record month. The daily average, however, was higher in April, and the highest of record. It was 13.47 ships, and $62,631.27 in tolls. The average toll per commercial ship was $4,650.84.

A Record Year Assured.

At the close of business on April 30, 1923, which marked the tenth month of the current fiscal year, the number of transits had reached 3,131 and the amount of tolls, $13,637,939.73.

Traffic for the calendar year ending December 31, 1922, exceeded that of any preceding calendar or fiscal year. The total number of transits and amount of tolls, respectively, were 2,997 and $12,573,407.77 during this period.

Traffic in the current fiscal year, therefore, has already exceeded the full 12 months' period of any preceding fiscal or calendar year, with the traffic for the months of May and June yet to be added.

Twenty-two Commercial Ships Transited Canal on April 26.

Seven Atlantic-bound and 15 Pacific-bound commercial vessels and a Navy cruiser transiting the Canal on April 26, made up one of the heaviest days' traffic through the Canal to date. Details follow:

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Pacific to Atlantic:				
Commercial	7	33,896	$32,335.00	48,122
Atlantic to Pacific:				
Noncommercial	1	(1)	Free	.....
Commercial	15	75,298	64,369.75	56,080
Totals	23	109,194	96,704.75	104,202

[1] Displacement tonnage of 3,200 tons.

This is a new record for number of transits of commercial ships in one day. In other respects the day's traffic was slightly lower than that of March 10, 1923, when 21 commercial vessels and a Navy minesweeper transited the Canal, with aggregate tonnage, etc., of the commercial vessels as follows: Panama Canal net tonnage, 109,953; tolls, $98,327.38; and cargo, 111,970 tons.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 28, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Nebraskan	21	14.55	22	6.35	22	14.17	22	15.35	American	American-Hawaiian Line	368.6	55.2	25.0	Philadelphia	Los Angeles	Gen., steel prod.	4,959	5,707	3,643
John D. Archbold	21	20.32	22	7.35	22	15.18	22	16.30	American	Standard Oil Co	554.9	75.3	23.0	New York	Los Angeles	Ballast		14,785	10,313
Sherman	22	6.00	22	8.00	22	15.23	22	16.30	American	Sherman Steamship Co	400.3	45.3	22.0	New York	San Antonio	General	2,591	5,037	3,492
Goodwill [1]	17	23.53	22	9.00	22	16.30			American	K. Spalding	120.0	30.0	16.0	Kingston	Los Angeles	Ballast		313	175
Munaires	22	8.50	22	9.30	22	17.10	22	21.00	American	Munson Line	370.0	53.0	23.0	Norfolk	Seattle	General	6,000	5,577	4,225
Machaon	22	6.10	22	10.00	22	17.53	22	18.40	British	Ocean Steamship Co	451.0	56.0	28.6	New York	Yokohama	General	7,300	7,953	5,734
Port Hacking	22	13.20	22	13.35	22	19.46	22	20.55	British	Commonwealth & Dom. Line	439.5	55.0	27.5	New York	Auckland	General	5,222	7,885	5,847
Houma	22	14.15	23	6.18	23	14.17	23	15.15	American	McAllister Bros. (S. B.)	434.8	56.2	21.0	New York	Los Angeles	Ballast		7,425	5,168
John D. Rockefeller	22	17.32	23	7.15	23	15.10	23	16.24	American	Standard Oil Co	458.3	60.0	21.9	New York	Los Angeles	Ballast		8,633	6,314
Tulsagas	22	17.48	23	8.05	23	16.05	23	20.49	American	McAllister Bros. (S. B.)	431.0	59.2	21.0	New York	Los Angeles	Ballast		7,817	4,961
Swiftscout	22	21.10	23	8.50	23	16.49	24	.19	American	Swiftsure Oil Transport. Co	464.0	60.2	20.0	Fall River	Los Angeles	Ballast		8,473	6,104
City of Shanghai	22	23.30	23	9.27	23	17.43	23	18.43	British	Ellerman Lines, Ltd	418.3	55.0	24.0	New York	Melbourne	General	4,588	7,073	5,361
Dix	23	6.50	23	9.50	23	18.39	23	19.54	American	Dollar Line	436.4	52.1	23.0	Norfolk	San Francisco	General	6,143	7,015	5,214
Tredinnick	23	8.23	23	10.35	23	19.24	23	20.31	British	Hain Steamship Co	400.0	52.1	25.0	St. Johns	Auckland	General	6,062	5,987	4,385
Mantaro	19	23.10	23	11.15	23	20.04	23	21.16	Peruvian	Peruvian Line	360.3	46.0	19.0	Cristobal	Callao	General	585	4,838	2,959
Seattle Maru	23	15.11	24	6.22	24	13.46	24	14.57	Japanese	Osaka Shosen Kaisha	410.0	51.0	24.0	Buenos Aires	Kobe	(6)	2,940	6,226	4,118
Patuxent [2]	22	18.57	24	6.42	24	13.37			American	U. S. Navy	156.0	29.0		Cristobal	Balboa	Ballast			
British Light	23	15.49	24	7.15	24	15.29	24	23.19	British	Anglo-Saxon Petroleum Co	420.0	54.0	18.6	Plymouth	Los Angeles	Ballast		6,763	4,314
Jason [3]	23	5.57	24	8.45	24	18.15	24	19.34	American	U. S. Navy	536.0	68.0	30.6	Norfolk	San Diego	Coal, supplies	8,722		
David McKelvy	23	17.40	24	9.45	24	19.00	24	19.55	American	Tidewater Oil Co	430.0	59.2	19.0	New York	Los Angeles	Ballast		7,629	5,393
15 N. D. [4]			24	6.42	24				American	U. S. Navy				Cristobal	Balboa	Ballast			
Rimutaka	24	19.15	25	6.30	25	13.49	25	22.25	British	New Zealand Shipping Co	457.0	58.0	26.0	Liverpool	Auckland	General	6,515	9,078	6,837
Lydia	25	2.53	25	6.30	25	14.37	25	19.00	American	Lydia Steamship Co	366.0	48.2	24.10	New Orleans	Seattle	General	5,200	4,620	3,343
Walter Jennings	25	5.55	25	7.40	25	15.00	25	15.55	American	Standard Oil Co	499.2	68.1	20.0	Charleston	Los Angeles	Ballast		11,037	7,995
Erviken	25	4.37	25	8.10	25	15.53	25	20.50	Norwegian	Haakon Wallem	420.0	54.0	27.6	Port Arthur	Yokohama	Petroleum	9,500	6,979	5,131
City of Batavia	25	4.05	25	8.52	25	16.44	25	18.10	British	Hall Line	425.5	53.1	25.0	New York	Sydney	General, case oil	7,346	6,488	4,680
Poleric	25	7.40	25	9.24	25	17.37	26	.16	British	Bank Line, Ltd	461.5	52.1	27.5	New York	Fusan	General	7,063	8,249	5,929
Steel Age	25	8.20	25	10.12	25	18.15	26	2.37	American	U. S. Steel Products Co	395.5	55.0	27.0	Baltimore	San Diego	(7)	8,685	7,285	5,256
Pearl Shell	25	8.25	25	10.50	25	18.58	26	.16	American	Pearl Shell Steamship Co	411.6	53.4	19.0	Bordeaux	Los Angeles	Ballast		6,177	4,403
Cacique	24	19.24	25	11.23	25	19.49	25	21.09	American	Grace Line	394.2	52.3	24.6	Baltimore	Seattle	General	5,985	6,652	4,913
F. Q. Barstow	25	12.25	25	12.35	25	20.44	25	21.40	American	Standard Oil Co	500.0	68.2	22.0	New York	Los Angeles	Ballast		10,530	7,604
Galveston [5]	24	18.06	26	6.15	26	14.19			American	U. S. Navy	292.0	44.0	18.0	New Orleans	Balboa	Ballast			
Santa Luisa	25	17.25	26	6.25	26	13.28	26	16.43	American	Grace Line	360.2	51.6	22.5	New York	Talcahuano	General	2,716	5,694	3,975
Paul Shoup	25	14.37	26	7.25	26	15.01	26	19.06	American	Associated Oil Co	424.4	58.2	23.0	Fall River	Los Angeles	Ballast		7,333	5,119

[1] Auxiliary schooner. [2] Tug. [3] Collier. [4] Launch. [5] Cruiser. [6] Cotton, hides, tankage, and steel sheets. [7] Steel pipe, tin plate, and general.

Santa Tecla	25	17.21	26	7.15	26	15.16	26	16.40	American	Grace Line	298.6	40.0	18.0	New York	Pto. Chicama	General	2,045	2,832	1,803
Egremont Castle	25	14.05	26	8.42	26	17.18	26	18.20	British	James Chambers & Co	410.0	52.0	28.3	New York	Manila	General	6,970	6,049	4,422
Loch Katrine[a]	25	3.58	26	9.20	26	18.02	26	18.50	British	Royal Mail Steam Packet Co	485.4	62.3	20.0	London	Vancouver	General	2,285	10,802	7,595
Royal Arrow	25	23.27	26	10.00	26	18.46	26	19.44	American	Standard Transportation Co	467.6	62.7	21.6	New York	Los Angeles	Ballast	.....	9,699	6,895
Santa Cecilia	26	6.40	26	10.30	26	19.34	27	.41	American	Planet Steamship Co	404.6	53.0	28.5	New York	San Francisco	General, steel	8,692	6,745	4,562
Aysen	22	16.56	26	11.05	26	20.16	26	21.26	Chilean	Chilean Line	379.6	44.3	20.6	Cristobal	Valparaiso	General	710	4,535	3,068
Davanger	26	7.30	26	11.40	26	21.01	27	13.45	Norwegian	Westfal, Larsen & Co	425.0	56.8	17.0	London	Los Angeles	Ballast	.....	7,125	4,916
Mexican	26	1.42	26	12.20	26	21.50	26	22.50	American	American-Hawaiian Line	472.3	57.2	26.4	New York	Los Angeles	General	6,567	9,258	6,874
Gaelic Prince	26	7.42	26	13.00	26	22.41	26	23.45	British	Prince Line, Ltd	448.0	57.0	28.10	New York	Hongkong	Gen., gas., oil	9,393	9,160	6,698
W. E. Hutton	26	11.37	26	13.45	26	23.20	27	.55	American	Pure Oil Steamship Co	435.0	56.0	20.0	Mobile	Los Angeles	Ballast	.....	7,481	5,120
Mystic	26	7.05	26	13.45	27	0.10	27	1.25	American	Shawmut Steamship Co	400.7	54.2	26.6	New Orleans	Los Angeles	General	7,856	6,623	4,625
Almagro	25	14.32	26	14.30	27	0.54	27	15.35	British	Pacific Steam Navigation Co	303.0	43.0	16.0	New York	Guayaquil	General	853	2,878	1,714
Anniston City	26	13.55	26	15.25	27	2.03	27	6.41	American	U. S. Steel Products Co	424.0	54.0	26.0	Philadelphia	Shanghai	General	7,993	7,611	5,450
Silver Shell	26	15.50	27	6.30	27	13.39	27	20.13	American	Silver Shell Steamship Co	411.6	53.4	19.0	Portishead	Los Angeles	Ballast	.....	6,213	4,343
Katrina Luckenbach	24	15.06	27	6.50	27	15.05	27	16.10	American	Luckenbach Line	446.0	56.0	30.6	New Orleans	Seattle	General	9,635	8,508	6,179
Steel Maker	26	14.20	27	7.50	27	15.40	27	16.55	American	U. S. Steel Products Co	395.0	55.0	27.7	New York	San Diego	General	8,400	7,285	5,256
Cerro Azul	26	20.30	27	8.39	27	17.18	27	18.25	American	Pan-American Petroleum Co	480.0	66.0	21.0	New Orleans	Los Angeles	Ballast	.....	9,398	6,453
Clement Smith	26	20.55	27	9.02	27	18.05	27	19.16	American	Oil Transport Co	431.0	59.0	17.0	Baton Rouge	Los Angeles	Ballast	.....	8,097	5,263
Scottish Strath	27	8.15	27	9.45	27	19.01	27	23.46	British	Anglo-Saxon Petroleum Co	440.0	57.4	20.0	Newcastle	Los Angeles	Ballast	.....	7,527	5,108
City of Para	18	21.35	27	10.13	27	19.44	28	13.10	Panaman	Pacific Mail Steamship Co	345.0	38.6	19.6	Cristobal	Champerico	General	1,178	3,730	2,459
Indiana	26	18.38	27	11.30	27	20.26	27	21.36	French	French Line	435.0	56.0	22.0	Havre	Vancouver	General	1,793	7,157	4,936
Gen. G. W. Goethals	26	6.25	27	11.35	27	21.24	29	7.51	American	Panama Railroad Steamship Line	353.0	48.7	25.0	New York	Guayaquil	General, cement	2,129	5,226	3,617
Missourian[a]	27	11.15	27	12.27	27	22.14	28	2.00	American	American-Hawaiian Line	445.1	59.8	24.10	Boston	Los Angeles	General	8,500	8,567	6,020
Cerro Ebano	27	20.00	28	6.20	28	14.05	28	15.05	American	Pan-American Petroleum Co	480.5	66.0	21.6	New Orleans	Los Angeles	Ballast	.....	9,398	6,453
Artigas	27	21.45	28	7.05	28	15.04	29	2.54	American	Nawsco Lines (S. B.)	390.0	54.2	19.0	Philadelphia	Los Angeles	General	4,759	6,204	4,314
Hoven	28	1.40	28	7.25	28	15.12	29	4.50	American	Walker and Daly (S. B.)	434.8	56.2	17.6	New York	Los Angeles	Ballast	.....	7,426	5,144
Edward Luckenbach	27	23.43	28	8.15	28	15.49	28	17.10	American	Luckenbach Line	436.0	57.0	29.6	Philadelphia	Los Angeles	General	8,962	8,543	6,427
Junin	28	4.53	28	9.15	28	16.59	28	7.19	British	Pacific Steam Navigation Co	391.5	50.2	23.6	Glasgow	Valparaiso	General	2,100	5,930	4,395

[a] Motor ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Chester Sun	21	23.45	22	7.58	22	15.14	22	15.14	American	Sun Oil Co	429.3	59.2	27.8	San Pedro	Baltimore	Crude oil	10,036	7,684	5,299
Hawaiian	22	5.40	22	8.25	22	16.45	22	17.25	American	American-Hawaiian Line	406.8	51.1	26.6	Portland	Philadelphia	General, lumber	6,600	6,039	4,180
Aysen	22	7.05	22	9.12	22	16.56	26	11.05	Chilean	Chilean Line	373.6	43.3	19.0	Talcahuano	Cristobal	General	279	4,535	3,068
Chickasaw City	22	11.07	22	11.59	22	18.55	22	18.55	American	Isthmian Steamship Line	395.5	55.0	27.0	Vancouver	London	General	8,139	6,841	4,686
Huguenot	22	5.30	22	12.37	22	20.50	22	20.50	American	McAllister Bros	434.8	56.2	26.6	San Pedro	New York	Fuel oil	10,014	7,394	5,099
Swiftwind	22	15.00	23	6.57	23	15.06	23	15.06	American	C. D. Mallory	464.0	60.0	27.7	San Pedro	Fall River	Crude oil	12,500	8,473	5,997
Robert Luckenbach	22	12.00	23	7.52	23	15.10	23	15.10	American	Luckenbach Line	445.0	58.0	24.0	Seattle	Boston	General	7,000	8,617	6,297
China Arrow	23	5.50	23	8.11	23	16.05	23	16.05	American	Standard Transportation Co	468.3	62.7	26.3	Los Angeles	Marcus Hook	Gasoline	11,186	10,084	7,388
Ancon	.....	.....	23	9.44	23	14.37	.....	.....	American	Panama Railroad Steamship Line	489.5	58.0	29.0	Balboa	Gatun	.....	.....	10,157	7,689
Orinoco	23	7.10	23	10.09	23	17.58	23	17.58	American	American-Hawaiian Line	376.4	52.3	24.1	Everett	New York	Lumber, copper	5,200	5,455	3,902
Salvador	23	3.15	23	11.03	23	19.15	....	....	British	Pacific Steam Navigation Co	225.0	35.4	13.1	Champerico	Cristobal	Coffee, sugar	397	1,270	375
Gen. O. H. Ernst	23	6.00	23	11.28	23	19.20	25	9.50	American	Panama Railroad Steamship Line	356.4	45.3	16.3	Guayaquil	New York	General	880	4,503	2,764

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Marore	23	10.30	23	13.48	24	13.30	24	14.12	American	Ore Steamship Corporation	550.3	72.2	31.3	Cruz Grande	Baltimore	Iron ore	18,000	15,551	4,297
Wales Maru	23	14.50	24	6.54	24	14.59	24	14.59	Japanese	Kabushiki Kaisha Kawasaki	405.0	53.0	27.10	Antofagasta	Charleston	Nitrate	9,250	7,043	5,077
J. L. Luckenbach	23	16.40	24	7.53	24	15.30	24	15.30	American	Luckenbach Line	448.9	60.2	26.4	San Francisco	New York	Lumber, general	8,000	9,294	6,861
Edgar F. Luckenbach	24	2.25	24	8.03	24	16.12	24	16.12	American	Luckenbach Line	425.0	57.3	23.0	Anacortes	Mobile	General	3,158	8,568	6,565
Henry S. Grove	24	2.35	24	8.53	24	16.47	24	16.47	American	Argonaut Steamship Line	404.6	54.0	22.6	Portland	Baltimore	Lumber, general	7,500	6,755	4,688
Lime Branch	24	6.00	24	9.46	24	18.30	24	23.02	British	F. & W. Ritson	395.0	56.2	22.6	Punta Arenas	Liverpool	General	7,345	6,587	5,039
Nordkap	24	12.18	24	13.00	24	20.25	24	20.25	Danish	Peter Brown & Co.	350.0	43.0	25.0	San Antonio	Baltimore	Copper, nitrate	5,366	3,755	2,712
Josiah Macy	24	14.42	24	15.21	24	23.22	24	23.22	American	Standard Oil Co.	419.0	57.0	27.6	San Pedro	New York	Crude oil	9,300	7,197	5,082
British Star	24	20.30	25	7.08	25	16.30	25	16.30	British	British Tanker Co.	430.5	57.0	25.6	San Pedro	Curacao	Crude oil	9,450	7,174	4,964
S. C. T. Dodd	24	19.35	25	7.47	25	17.06	25	17.06	American	Standard Oil Co.	425.0	57.2	28.6	San Francisco	Port Arthur	Refined oil	10,000	7,481	4,975
Iolcos	24	12.00	25	8.08	25	18.25	25	22.40	Greek	Hellenic Transportation Co.	408.0	52.2	28.6	Mejillones	Charleston	Nitrate	8,100	5,771	4,047
Northern Star	25	4.50	25	9.41	25	18.18	25	18.18	American	American Star Line	386.2	52.2	22.1	Grays' Harbor	New York	Lumber	5,800	5,682	4,086
San Juan	24	18.55	25	10.29	25	19.33	30	6.05	American	Pacific Mail Steamship Co.	283.0	37.0	17.3	San Francisco	Cristobal	General	1,711	2,379	1,593
Patuxent [9]			25	10.39	25	20.26			American	U. S. Navy				Balboa	Cristobal				
Cherry Branch	25	10.25	25	11.08	25	21.00	25	22.55	British	F. & W. Ritson	400.5	52.0	23.0	Valparaiso	Liverpool	Nitrate, gen.	6,649	5,403	3,967
Canadian Planter	25	18.00	26	6.50	26	20.20	26	21.15	British	Canadian Government	400.3	52.0	17.6	Melbourne	Montreal	General	5,000	5,842	4,092
Clan McKay	25	18.00	26	7.52	26	21.05	26	22.55	British	Clan Line, Ltd.	420.0	54.1	22.3	Medang	Hamburg	Copper, general	6,022	6,630	4,975
Turkestan	25	24.00	26	8.10	26	22.50	26	23.35	British	Hindustan Steamship Co.	364.8	51.1	23.3	Mejillones	Savannah [10]	Nitrate	6,800	4,749	3,143
Teno	26	2.50	26	8.40	26	21.55	27	12.43	Chilean	Chilean Line	421.8	56.0	24.0	Valparaiso	New York	General	4,022	7,758	4,672
Hague Maru	26	10.10	26	10.43	26	22.40	26	23.30	Japanese	Osaka Shosen Kaisha	407.0	51.0	22.0	Singapore	New York	General	5,778	6,202	4,507
Ardmore	26	11.40	26	12.27	26	23.59	27	7.18	American	Standard Oil Co.	449.5	59.6	26.0	Talara	Hamburg	Crude naptha	9,500	8,612	6,457
Swiftlight	26	7.30	26	15.01	27	.45	27	.45	American	C. D. Mallory & Co.	465.0	60.0	25.0	San Pedro	Fall River	Crude oil	11,000	8,473	6,050
Charles Pratt	26	13.46	27	7.10	27	20.26	27	23.22	American	Standard Oil Co. of New Jersey	500.0	68.0	30.0	San Pedro	New York	Crude oil	10,360	10,31	7,492
Bohemian Club	26	15.00	27	7.47	27	16.37	27	17.10	American	Atlantic Refining Co.	425.0	57.2	27.0	San Pedro	Philadelphia	Crude oil	10,000	7,204	4,769
H. H. Rogers	26	21.00	27	8.49	27	17.53	27	17.53	American	Standard Oil Co. of New Jersey	500.0	68.0	29.6	Los Angeles	Charleston	Crude oil	15,460	10,303	7,669
Felix Taussig	27	3.30	27	9.00	27	18.46	27	18.46	American	Crowell & Thurlow	395.0	55.1	25.5	Everett	Boston	Lumber	8,000	6,594	4,503
Santa Olivia	27	7.15	27	11.59	27	21.10	27	21.10	American	Pacific Mail Steamship Co.	401.6	53.9	27.0	Seattle	Baltimore	Lumber	7,242	6,779	4,921
Delaware Sun	27	8.00	27	14.42	27	22.45	27	22.45	American	Sun Oil Co.	480.5	66.0	28.0	San Pedro	Philadelphia	Crude oil	13,690	9,402	5,586
Laura C. Hall	26	20.35	27	14.18	27	23.00			British	Pacific Metals Corporation	81.0	21.6	9.10	Buenaventura	Cristobal	Platinum	([12])	132	72
Mundale	27	20.00	28	8.02	28	15.55	28	15.55	American	Munson Steamship Co.	358.0	44.9	17.0	Seattle	Antillo	Lumber	2,731	3,769	2,506
Susquehanna	27	23.30	28	9.02	28	17.50	29	3.12	American	Swayne, Hoyte & Co., Inc.	500.8	58.5	26.4	Seattle	Buenos Aires	General	4,973	11,064	7,526
Cauca	28	6.20	28	9.36	28	18.55			British	Pacific Steam Navigation Co.	246.0	35.0	18.3	Acajutla	Cristobal	General	1,603	1,589	1,018
Alm	27	11.15	28	9.59	28	18.37	28	18.37	Norwegian	Colombia Steamship Co.	216.2	36.9	24.0	Guayaquil	New York	Cocoa, ivory nuts	920	1,675	1,183
Hallway	27	18.15	28	10.10	28	19.45	28	20.30	American	Walker & Daly	435.0	56.0	25.9	Los Angeles	New York [10]	Crude oil	9,700	7,643	5,319
Presidente Leguia	27	16.23	28	12.17	28	21.40	29	6.40	Peruvian	National Oriental Navigation Co.	312.3	49.6	17.0	Callao	Iquitos	General, salt	400	3,651	2,787
Ucayali	28	8.50	28	18.42	28	21.46			Peruvian	Peruvian Line	374.7	46.3	19.9	Mollindo	Cristobal	([11])	1,170	4,466	2,405

[9] And raft. [10] For orders. [11] Cocoa for Buenaventura. [12] One box. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

MOVEMENTS OF OCEAN VESSELS—Continued.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
April 22	Abangarez	United Fruit Co	New Orleans via Habana.	April 22	Ulua	United Fruit Co	New York via Habana.
April 22	Ulua	United Fruit Co	Port Limon.	April 23	Abangarez	United Fruit Co	Bocas.
April 22	Antillian	Leyland Line	Liverpool via wayports.	April 23	Antillian	Leyland Line	Kingston.
April 23	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.	April 24	Crynssen	Royal Netherlands W. I. Mail	Port Limon.
April 24	Sciota [13]	U. S. Navy	High seas.	April 25	Toloa	United Fruit Co	Port Limon.
April 24	Crynssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.	April 25	San Bruno	United Fruit Co	Boston via Limon.
April 24	Toloa	United Fruit Co	New York via Habana.	April 26	Tivives	United Fruit Co	Colombian ports.
April 24	Cartago	United Fruit Co	New Orleans via Habana.	April 26	Cartago	United Fruit Co	New Orleans via wayports.
April 25	San Bruno	United Fruit Co	Boston via Habana.	April 26	Carrillo	United Fruit Co	New York and Kingston.
April 25	Tivives	United Fruit Co	New York via Kingston.	April 26	Abangarez	United Fruit Co	New Orleans.
April 24	Linda S. and Alva [14]	Surgeon Bros	Colon.	April 26	Linda S. and Alva [14]	Surgeon Bros	Colon.
April 26	Carrillo	United Fruit Co	Colombian ports.	April 27	Ulysses [15]	Panama Railroad Steamship Line	Norfolk.
April 26	Abangarez	United Fruit Co	Bocas.	April 28	Bayano	Elders & Fyffes, Ltd	Kingston.
April 27	Crynssen	Royal Netherlands W. I. Mail	Port Limon.	April 28	Crynssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.
April 28	Macoris	French Line	Havre via wayports.				
April 28	Bayano	Elders & Fyffes, Ltd	Port Limon.				

PORT OF BALBOA.

April 22	Gold Shell	Asiatic Petroleum Co	San Francisco.	April 24	Gold Shell	Asiatic Petroleum Co	Los Angeles.
April 26	San Lamberto	Anglo-Mexican Petroleum Co	San Pedro.	April 27	San Lamberto	Anglo-Mexican Petroleum Co	Los Angeles.
April 27	Santa Maria	Union Oil Co	Port San Luis.				

[13] Tug. [14] Motor schooner. [15] Collier.

*Other than ships passing through the Canal.

Passenger Connections from the Panama Canal.

Services carrying passengers from the Panama Canal and/or its terminal ports to various ports of the world are listed below. For each port are given the lines or line with passenger vessels calling there, the route of voyage from the Isthmus, the frequency of sailings, the days required to make the voyage, and the fare from the nearest Canal terminal. The fares quoted are the minimum first-class fares; if second and/or third-class passengers are carried, such fares are indicated by reference to the foot notes.

For convenience in reference, Atlantic and Pacific ports are shown in separate sections. Under Atlantic ports, the ports are arranged by areas, as follows:

United States and Canada;
Central America and Mexico;
West Indies;
South America;
Europe.

Under Pacific ports the classification is:

United States and Canada;
Central America and Mexico;
South America;
Australia and New Zealand;
China, Japan, Far East.

Under each of the subsections the ports are arranged in alphabetical order.

The services and rates are subject to change without notice. The data are published for information and convenience but without obligation on the part of the steamship companies or The Panama Canal.

Atlantic Ports—United States and Canada.

Port.	Line.	Route.	Frequency of sailing.	Voyage days.	Fare.
Baltimore, Md	Pacific Mail S. S. Co	Via Habana	Every 16 days	8	$145–$159.50.
Boston, Mass	United Fruit Co	Direct	Fortnightly	7	$123.
Do	do	Via Limon	do	10	$144.
New Orleans, La	do	Direct	Every Thursday	5	$110 and up.
Do	do	Via Tela and Habana	do	8	$127 and up.
New York, N. Y	do	Via Kingston	Every Thursday	7	$145 and up.
Do	do	Via Habana	Every Sunday	7	$145 and up.
Do	Panama Railroad Line.	Via Haiti	Every 10 days	7–8	$100.
Do	Grace Line	Direct	Fortnightly	6	$145–$160.
Do	Pacific Mail S. S. Co	Via Habana and Baltimore.	Every 16 days	12	$145–$159.50.
Do	Pacific Steam Nav. Co.	Via Habana	Monthly	7	$145, [2] $85.

[2] Third class.

Atlantic Ports—Central America and Mexico.

Bocas del Toro, Panama	United Fruit Co	Direct	Every Monday	1	$25.
Limon, Costa Rica	do	do	Every Wednesday	1	$25.
Tela, Honduras	do	do	Every Thursday	2	$60.

Atlantic Ports—West Indies.

Barbados	La Veloce	Via South American and West Indian ports.	Bimonthly	9	$115, [1] $80, [2] $55.
Curacao	Cia Transatlantica de Barcelona.	Via Puerto Colombia	Monthly on 12th	3	$50, [1] $35, [2] $25.
Do	La Veloce	Via Cartagena and Puerto Colombia.	Bimonthly	4	$50, [1] $35, [2] $25.
Do	French Line	Via Puerto Colombia	Fortnightly	2	$50.
French West Indies	do	Via South American and West Indian ports.	do	6	$110.
Habana, Cuba	United Fruit Co	Direct	Every Sunday	3	$75.
Do	do	Via Tela	Every Thursday	6	$100.
Do	Pacific Steam Nav. Co	Direct	Fortnightly	3	$75, [1] $50, [2] $25.
Do	Pacific Mail S. S. Co	do	Every 16 days	3	$105-$115.
Kingston, Jamaica	United Fruit Co	do	Every Thursday	2	$50.
Do	Pacific Steam Nav. Co	do	Occasionally	1½	$50, [1] $35, [3] $11.
Ponce, Porto Rico	Cia Transatlantica de Barcelona.	Via South American and West Indian ports.	Monthly on 12th	7	$100, [1] $80, [2] $45.
Do	Pacific-Argentine-Brazil Line.	Direct	Every 40 days	3	$65, [2] $32.50.
Port-au-Prince, Haiti [5]	Panama Railroad Line.	do	Every 10 days	2½	$45.
San Juan, Porto Rico	Pacific-Argentine-Brazil Line.	Via Ponce	Every 40 days	5	$75, [2] $37.50.
Do	Cia Transatlantica de Barcelona.	Via South American and West Indian ports.	Monthly on 12th	8	$100, [1] $80, [2] $45.
Trinidad	French Line	do	Fortnightly	5	$100.
Do	La Veloce	do	Bimonthly	8	$100, [1] $70, [2] $50.

[1] Second class. [2] Third class. [3] Deck. [5] The following additional Haitian ports are touched monthly more or less: Cape Haitien, Port de Paix, Gonaives, St. Marc, Goave, Miragoane, Jeremie, Aux Cayes, Aquin, Jacmel. Marigot, Sale Trou.

ATLANTIC PORTS—SOUTH AMERICA.

Port.	Line.	Route.	Frequency of sailing.	Voyage days.	Fare.
Buenos Aires, Argentina	Pacific-Argentine-Brazil Line.	Via Porto Rico and Rio de Janerio.	Every 40 days.	24	$250, [3] $125
Cartagena, Colombia	United Fruit Co.	Direct	Every Thursday	1	$25.
Do	Cia Costanera Colombiana de Transportes.	do	Monthly	1	$25, [3] $8.
Do	La Veloce	do	Bimonthly	1	$20, [2] $15, [3] $10.
Do	Pacific Steam Nav. Co.	do	Occasionally	2	$25, [3] $8.
Carupano, Venezuela	French Line	Via South American ports and Curacao changing at Martinique.	Fortnightly	5	$75.
Cayenne, French Guiana	do	do	do	17	$150.
Georgetown, British Guiana.	do	do	do	15	$160.
La Guayra, Venezuela	do	Colombian ports and Curacao.	do	4	$70.
Do	Cia Transatlantica de Barcelona.	Puerto Colombia, Curacao, Puerto Cabello.	Monthly on 12th	6	$70, [2] $50, [3] $35.
Do	La Veloce	Colombian ports, Curacao, Puerto Cabello.	Every 60 days	6	$70, [2] $50, [3] $35.
Do	French Line	Via wayports	Fortnightly	4	$70.
Puerto Cabello, Venezuela.	do	Puerto Colombia and Curacao.	do	3	$60.
Do	Cia Transatlantica de Barcelona.	do	Monthly on 12th	4	$60, [2] $40, [3] $30.
Do	La Veloce	Cartagena, Puerto Colombia, Curacao.	Bimonthly	5	$60, [2] $40, [3] $30.
Puerto Colombia, Colombia.	United Fruit Co.	Via Cartagena	Every Thursday	2	$40.
Do	French Line	Direct	Fortnightly	1	$30
Do	Cia Costanera Colombiana de Transportes.	Via Cartagena	Monthly	2	$40.
Do	Cia Transatlantica de Barcelona.	Direct	Monthly on 12th	1	$30, [2] $20, [3] $15.
Do	Pacific Steam Nav. Co.	Direct	Occasionally	1	$40, [3] $11.
Do	La Veloce	Via Cartagena	Bimonthly	1½	$30, [2] $20, [3] $15.
Rio de Janeiro, Brazil	Pacific-Argentine-Brazil Line.	Via Porto Rico	Every 40 days	20	$200, [2] $100.
Santa Marta, Colombia.	United Fruit Co.	Via Cartagena and Puerto Colombia.	Every Thursday	3	$60.
Surinam, Dutch Guiana.	French Line	Changing at Martinique	Fortnightly	16	$175.

[1] Second class. [2] Third class. [3] Deck.

ATLANTIC PORTS—EUROPE.

Antwerp, Belgium	R. M. S. P./H.-A. L.[4]	Direct	Triweekly	23	£ 45.
Do	Pacific Steam Nav. Co.	Via England	Occasionally	23	£ 25, 10/.
Barcelona, Spain	Cia Transatlantica de Barcelona.	Via Porto Rico	Monthly on 12th	25	$275, [1] $200, [2] $115.
Do	La Veloce	Via South American, West Indian ports, and Teneriffe.	Bimonthly	22	$270, [1] $180, [3] $100.
Bristol, England	Elders & Fyffes, Ltd.	Via Kingston	Fortnightly	16	£ 50.
Cadiz, Spain	Cia Transatlantic de Barcelona.	Via Porto Rico and Canary Islands.	Monthly on 12th	22	$275, [1] $200, [2] $115.
Canary Islands	do	Via Porto Rico	do	20	$255, [1] $185, [2] $115.
Do	La Veloce	Via South American and West Indian ports.	Bimonthly	19	$250, [1] $180, [2] $70.
Corunna, Spain	Pacific Steam Nav. Co.	Via Habana	Triweekly	18	£ 48, [1] £27, [2] £15.
Genoa, Italy	La Veloce	Via South American, West Indian ports, Teneriffe, Barcelona, and Marseilles.	Bimonthly	27	$270, [1] $180, [2] $100.
Hamburg, Germany	R. M. S. P./H.-A. L.[4]	Via England	Monthly	22	£ 45.
Do	Pacific Steam Nav. Co.	do	Occasionally	22	£25, 19/.
Havre, France	French Line	Via South American and West Indian ports.	Fortnightly	18	$260.
Do	Pacific Steam Nav. Co.	Via England	Monthly	21	£25, 10/.
La Rochelle, France	do	Via Spain	Triweekly	19	£48, [1] £27, [2] £15.
Liverpool, England	do	Via Spain and France	do	21	£48, [1] £27, [2] £15.
London, England	do	Direct	do	20	£25, 10/.

[1] Second class. [2] Third class. [3] Saloon. [4] Royal Mail Steam Packet Company in conjunction with Holland-American Line.

ATLANTIC PORTS—EUROPE.—Continued.

Port.	Line.	Route.	Frequency of sailing.	Voyage days.	Fare.
Marseilles, France	La Veloce	Via Teneriffe and Barcelona.	Bimonthly	25	$270, [1]$180, [2]$100.
Rotterdam, Holland	R. M. S./P.-H.-A. L.[6]	Direct	Triweekly	23	£45.
Santander, Spain	Pacific Steam Nav. Co.	Via Habana	do	18	£48, [1]£27, [2]£15.
Do	French Line	Via South American and West Indian ports.	Monthly	17	$275.
Southampton, England	New Zealand Shipping Co.	Direct	do	15–18	$250, [4]$200, [3]$175, [2]$100.
Do	R. M. S. P./H.-A. L.[6]	do	Every 6 weeks	20	£45.
Do	Shaw, Savill & Albion	do	do	16	$250, [3]$180, [2]$100.
St. Nazaire, France	French Line	Via South American and West Indian ports.	Fortnightly	18	$260.
Vigo, Spain	Pacific Steam Nav. Co.	Via Habana	Triweekly	18	£48, [1]£27, [2]£15.

[1] Second class. [2] Third class. [4] Saloon. [6] Royal Mail Steam Packet Company in conjunction with Holland-American Line.

PACIFIC PORTS—UNITED STATES AND CANADA.

Astoria, Oreg	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	25	$265.
Los Angeles, Calif	Pacific Mail S. S. Co	Via Central American and Mexican ports.	Every 16 days	14	$194-$213.40.
Do	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	12	$175.
Do	Pacific-Argentine-Brazil Line.	Direct	Every 40 days	11	$188, [2]$94.
Do	Toyo Kisen Kaisha	Via Manzanillo	Every 7 weeks	14	$162.50. [1]$97.50. [2]$65.00.
Portland, Oreg	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	21	$265.
Do	Pacific-Argentine-Brazil Line.	Via Los Angeles and San Francisdo.	Every 40 days	25	$208, [2]$104.
San Francisco, Calif	Pacific Mail S. S. Co	Via Central American and Mexican ports.	Fortnightly	27	$194, [2]$97.
Do	do	do	Every 16 days	16	$194-$213.40.
Do	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	14	$175.
Do	French Line	Direct	Monthly	17	$194.
Do	Pacific-Argentine-Brazil Line.	Via Los Angeles	Every 40 days	13	$188, [2]$94.
Do	Toyo Kisen Kaisha	Via Manzanillo and Los Angeles.	Every 7 weeks	16	$162.50. [1]$97.50. [2]$65.
Seattle, Wash	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	18	$265.
Do	Pacific-Argentine-Brazil Line.	Via Los Angeles, San Francisco and Portland.	Every 40 days	28	$208, [2]$104.
Vancouver, B. C	R. M. S. P./H.-A. L.[6]	Via wayports	Triweekly	26	$265.
Do	French Line	Via San Francisco	Monthly		

[1] Second class. [2] Third class. [6] Royal Mail Steam Packet Company in conjunction with Holland-American Line.

PACIFIC PORTS—CENTRAL AMERICA AND MEXICO.

Acajutla, Salvador	Pacific Steam Nav. Co.	Via Central American ports.	Fortnightly	8	$107, [2]$54.
Do	do	do	do	12	$107, [2]$53.50
Acapulco, Mexico	do	do	do		$178, [2]$89.
Amapala, Honduras	Pacific Steam Nav. Co.	do	do	5	$84, [2]$42.
Do	Pacific Mail S. S. Co.	do	do	5	$84, [2]$42.
Champerico, Guatemala	Pacific Steam Nav. Co.	do	do	10	$131, [2]$66.
Do	Pacific Mail S. S. Co.	do	do	15	$131, [2]$65.50.
Corinto, Nicaragua	Pacific Steam Nav. Co	do	do	4	$77, [2]$39.
Do	Pacific Mail S. S. Co.	do	do	4	$77, [2]$38.50.
Do	do	Direct	Every 16 days	3	$77.
La Libertad, Salvador	Pacific Steam Nav. Co.	Via Central American ports.	Fortnightly	7 7	$101, [2]$51.
Do	Pacific Mail S. S. Co.	do	do	4	$101, [2]$50.50.
Do	do	Via Corinto	Every 16 days		$101-$111.10.
La Union, Salvador	Pacific Steam Nav. Co.	Via Central American ports.	Fortnightly	6	$93, [2]$47.
Do	Pacific Mail S. S. Co.	do	do	6	$93, [2]$46.50.
Manzanillo, Mexico	do	do	do	19	$185, [2]$92.50.
Do	do	do	Every 16 days	9	$185-$203.50.
Do	Toyo Kisen Kaisha	Direct	Every 7 weeks	9	$130, [1]$78, [2]$68.
Mazatlan, Mexico	Pacific Mail S. S. Co.	Via Central American ports.	Fortnightly	21	$194, [2]$97.

[1] Second class. [2] Third class.

PACIFIC PORTS—CENTRAL AMERICA AND MEXICO.—Continued.

Port.	Line.	Route.	Frequency of sailing.	Voyage days.	Fare.
Puntarenas, Costa Rica.	Pacific Steam Nav. Co	Direct	Fortnightly	2	$45, [2]$23.
Do	Pacific Mail S. S. Co.	do	do	2	$45, [2]$22.50.
San Jose de Guatemala.	Pacific Steam Nav. Co	Via Central American ports.	do	9	$123, [2]$62.
Do	Pacific Mail S. S. Co.	do	do	13	$123, [2]$61.50.
Do	do	do	Every 16 days	5	$123-$135.30.
San Juan del Sur, Nicaragua.	Pacific Steam Nav. Co	do	Fortnightly	3	$60, [2] $30.
Do	Pacific Mail S. S. Co.	do	do	3	$60, [2] $30.

[2] Third class.

The National Navigation Company of Panama maintains service between Panama City and all ports in the Republic of Panama on the Pacific coast. Sailings are twice a week in the case of the more important ports; weekly, every 10 days, and fortnightly in others. Time up to 4 days, and fares up to $17.50.

PACIFIC PORTS—SOUTH AMERICA.

Antofagasta, Chile	Grace Line	Via wayports	Fortnightly	10½	$190–$209.
Do	Chilean Line	do	do	12	$190.
Do	Pacific Steam Nav. Co	do	Triweekly	11	$190, [1]$128, [2]$65.
Do	La Veloce	do	Bimonthly	15	$205, [1]$110, [2]$70.
Do	Chunghwa Nav. Co.	do	Every 4 months		$185, [1]$124.50 [2]$61.
Arica, Chile	Grace Line	do	Fortnightly	8½	$170–$187.
Do	Chilean Line	do	do	9	$170.
Do	Pacific Steam Nav. Co.	do	Triweekly	9	$170, [1]$113.50 [2]$60.
Do	La Veloce	do	Bimonthly	12	$170, [1]$95, [2]$60.
Bahia, Ecuador	Pacific Steam Nav. Co.	do	Triweekly	4	$65, [2]$25.
Ballenita, Ecuador	do	do	do	5	$75, [2]$25.
Buenaventura, Colombia	Peruvian Line	Direct	Fortnightly	2	$40, [2]$15.
Do	Pacific Steam Nav. Co.	do	Triweekly	2	$40, [2]$15.
Do	Panama Railroad Line	do	Monthly		$40, [2]$15.
Do	Cia Costanera Colombiana de Transportes.	do	do	2	$40, [2]$15.
Caldera, Chile	Pacific Steam Nav. Co.	Via wayports	Occasionally		$199, [1]$132.50, [2]$65.
Callao, Peru	Grace Line	do	Fortnightly	4½	$140–$154.
Do	Peruvian Line	do	do	9	$140, [2]$45.
Do	Chilean Line	do	do	7	$140.
Do	Pacific Steam Nav. Co	do	Triweekly	4	$140, [2]$45.
Do	French Line	Via Gauyaquil	Monthly	7	$140.
Do	La Veloce	do	Bimonthly	8	$140, [1]$70 [2]$45.
Do	Chunghwa Nav. Co.	Direct	Every 4 months	5	$135, [1]$91, [2]$42.
Cayo, Ecuador	Pacific Steam Nav. Co.	Via wayports	Triweekly	5	$70, [2]$25.
Charnal, Chile	do	do	Occasionaly		$198, [1]$132, [2]$65.
Coquimbo, Chile	do	do	do		$205, [2]$65.
Do	Grace Line	do	Fortnightly	12	$205–$225.
Esmeraldas, Ecuador	Pacific Steam Nav. Co	do	Triweekly	3	$55, [2]$20.
Eten, Peru	do	do	Occasionally		$110, [2]$40.
Do	Peruvian Line	do	Fortnightly	7	$110, [2]$40.
Guayaquil, Ecuador	Chilean Line	Direct	do	4	$85.
Do	Peruvian Line	Via Buenaventura	do	5	$85, [2]$30.
Do	Pacific Steam Nav. Co	Via wayports	Triweekly	6	$85, [2]$30.
Do	French Line	Direct	Monthly	4	$85.
Do	Panama Railroad Line	Via Buenaventura	do	5	$85.
Do	La Veloce	Direct	Bimonthly	3	$85, [1]$50, [2]$30.
Huasco, Chile	Pacific Steam Nav. Co.	Via wayports	Occasionally		$203, [2]$65.
Ilo, Peru	Peruvian Line	do	Fortnightly	11–12	$165, [2]$55.
Iquique, Chile	Grace Line	do	do	9½	$180–$198.
Do	Chilean Line	do	do	10	$180.
Do	Pacific Steam Nav. Co.	do	Triweekly	10	$180, [1]$120, [2]$60.
Do	La Veloce	do	Bimonthly	13	$180, [1]$100, [2]$60.
Do	Chunghwa Nav. Co.	do	Every 4 months		$175, [1]$116.50 [2]$59.
Manta, Ecuador	Pacific Steam Nav. Co	do	Triweekly	4	$65, [2]$25.

[1] Second class. [2] Third class.

PACIFIC PORTS.—SOUTH AMERICA.—Continued.

Port.	Line.	Route.	Frequency of sailing.	Voyage days.	Fare.
Machalilla, Ecuador	Pacific Steam Nav. Co	Via wayports	Triweekly	5	$70, [2]$25.
Manglaralto, Ecuador	do	do	do	5	$70, [2]$25.
Mejillones, Chile	Pacific Steam Nav. Co.	do	Occasionally		$190, [2]$60.
Mollendo, Peru	Grace Line	do	Fortnightly	7½	$165–$181.
Do	Peruvian Line	do	do	10–11	$165, [2]$55.
Do	Pacific Steam Nav. Co.	do	Triweekly	8	$165, [2]$55.
Mollendo, Peru	La Veloce	do	Bimonthly	11	$165, [1]$90, [2]$55.
Paita, Peru	Grace Line	do	Fortnightly	2¾	$105.
Do	Chilean Line	do	do	5	$105.
Do	Peruvian Line	do	do	6	$105, [2]$35.
Do	Pacific Steam Nav. Co.	do	Monthly	6	$105, [2]$35.
Pacasmayo, Peru	Peruvian Line	do	Fortnightly	7	$110. [2]$40.
Do	Pacific Steam Nav. Co.	do	do		$110, [2]$40.
Pisagua, Chile	do	do	Occasionally		$175, [2]$61.
Pisco, Peru	do	do	do		$150, [2]$50.
Do	Peruvian Line	do	Fortnightly	10	$150, [2]$50.
Puerto Bolivar, Ecuador	Pacific Steam Nav. Co.	do	Triweekly	6	$80, [2]$25.
Salaverry, Peru	Chilean Line	Via wayports	Fortnightly	6	$120.
Do	Peruvian Line	do	do	8	$120, [2]$40.
Do	Grace Line	do	do	3½	$120.
Do	Pacific Steam Nav. Co.	do	Occasionally		$120, [2]$40.
Talara, Peru	Grace Line	Direct	Fortnightly	2½	$105.
Taltal, Chile	Pacific Steam Nav. Co.	Via wayports	Occasionally		$195, [1]$130, [2]$65.
Tocopilla, Chile	do	do	do		$187.50; [1]$125, [2]$60.
Tumaco, Colombia	do	do	Triweekly	3	$50. [2]$20.
Valparaiso, Chile	Grace Line	do	Fortnightly	13	$205–$225.
Do	Chilean Line	do	do	14	$205.
Do	Pacific Steam Nav. Co.	do	Triweekly		$205, [1]$138, [2]$65.
Do	French Line	do	Monthly	15	$220.
Do	La Veloce	do	Bimonthly	17	$220, [1]$125, [2]$75.
Do	Chunghwa Nav. Co	do	Every 4 months		$200, [1]$135, [2]$63.50.

[1] Second class. [2] Third class.

PACIFIC PORTS—AUSTRALASIA.

Auckland, New Zealand	Commonwealth and Dominion Line.	Direct	Triweekly	23	£50.
Do	New Zealand Shipping Co., Ltd.	do	Monthly	21–27	$285, [4]$225, [1]$200, [2]$110.
Brisbane, Australia	Commonwealth and Dominion Line.	do	Triweekly	23	£50.
Wellington, New Zealand.	do	do	do	23	£50.
Do	Shaw, Savill & Albion.	do	Every 42 days		$300, [1]$200, [2]$120.

[1] Second class. [2] Third class. [4] Saloon.

PACIFIC PORTS—FAR EAST.

Hongkong, China	Toyo Kisen Kaisha	Via Manzanillo, Los Angeles, San Francisco and Japan	Every 7 weeks	63	$297, [1]$190.50, [2]$140.50.
Do	Chunghwa Nav. Co.	Via Honolulu	Every 4 months	35	$297, [1]$190.50, [2]$140.50.
Honolulu	Toyo Kisen Kaisha	Via Manzanillo, Los Angeles and San Francisco.	Every 7 weeks	26	$208, [1]$127, [2]$78.
Do	Chunghwa Nav. Co.	Direct	Every 4 months		$179, [1]$109, [2]$67.
Kobe, Japan	Toyo Kisen Kaisha	Via Manzanillo, Los Angeles and San Francisco.	Every 7 weeks	46	$253, [1]$153, [2]$131.50.
Moji, Japan	do	do	do	47	$253, [1]$153, [2]$131.50.
Yokohama, Japan	do	do	do	46	$253, [1]$153, [2]$131.50.

[1] Second class. [2] Third class.

Sale of Unclaimed Cargo.

ANCON, C. Z., April 10, 1923.

In accordance with an order signed by the Judge of the United States District Court for the Canal Zone, April 7, 1923, there will be sold at public sale at the Receiving and Forwarding Agency of the Panama Railroad Company in Cristobal on June 4, 1923, two consignments of chinchona bark of a total of 70,000 pounds, more or less, samples of which may be obtained from the Receiving and Forwarding Agent.

Samples of the bark recently tested have analysed 2½ per cent alkaloid but the purchaser must take it "as is" without reference to later analyses.

This bark will be sold for the recovery of storage charges that have accrued against it.

S. W. HEALD,
Superintendent Panama Railroad Co.

Ships at Canal Repair Shops.

The following vessels were at Balboa shops for repairs during the 3 weeks ended April 14:

Steamships *W. C. Teagle*, dock and undock; clean bottom; paint 1 coat of anti-corrosive, 1 coat of antifouling, boot topping and draft marks; examine and repair sea valves; renew zinc on starboard strut; manufacture and install 1 lignum vitæ bushing and rudder pintle; remove port and starboard propellers; install 2 new propeller blades; draw tail shafts; true up sleeves; ream coupling bolt holes and manufacture new bolts and rewood stern bushing; *Olockson*, free 1 set of boat davits and refasten to deck; cover 2 hatches with timbers, planks, and canvas; fasten backers over air ports; install metal bunks; fair 2 metal doors; install 4 soft patches; free up cargo winches and hand steering gear; remove propeller blades from propeller hub and perform necessary details to prepare ship for towing to the United States; *Huallago*, dismantle broken low pressure column on port engine; manufacture pattern and cast and machine 1 new column; repair brackets and valves for air pump; *Ansaldo San Giorgio III*, manufacture 1 copper suction pipe; *Eastern Gale*, renew check valve in suction line; motor schooner, *Laura C. Hall*, remetal and fit main bearings, connecting rod bearings, and all spare bearings; renew eccentrics and refit eccentric straps; grind valves, manufacture pump plungers and make all necessary renewals and adjustments necessary for installing a new crank shaft.

PREVIOUSLY REPORTED.

Steamship *Colon*, dock and undock; paint; reboiler and perform general repairs to the ship's hull and equipment in all divisions of the ship; barge *No. 133*, renew bad order deck plates; test all tanks; straighten hopper brasses and framing; renew bad order fenders; hopper sheathing, and line up winding machinery; install landing frame on deck for dippers.

The following vessels were at the Cristobal shops for repairs during the three weeks ended April 28:

Supply boat *No. 2* (Marine Division), minor repairs; Steamships *Newport*, repair valve on L. P. engine; *Darien*, dock and undock and examine hull; repair rudder and check plate; motor schooner *Arabia*, dock and undock; clean bottom; replace lost copper sheathing; renew stay iron on bow; stop leak in garboard streak; steamships *Acajutla*, face main boiler injector valves and seats; renew suction pipe; repair oil cup on main engine; *Solana*, supply and install 2 brass oil cups for main circulator engine; renew 4 steel fuel oil pump rods; renew 12 feet of 4-inch copper deck pipe; *Cristobal*, repair leak in No. 3 hold; overhaul gangway; make goose pin for No. 5 port boom; finish the scaling and painting of alley way on lower 'tween deck; scale and paint 2 streaks on ship's side; scale and paint forward portion of main deck; U. S. Army transport *Grant*, scale boilers; steamship *Zacapa*, minor repairs; *Orcoma*, make and install pintle for rudder; *Magellan*, repair ice machine; yacht *Goodwill*, repair motor thrust, 2 pumps, 2 gauges, refrigerating coils, make eye bolt, copper tank, 24 oil spreaders, 18 brass strips, 16 brass pins, alter water suction pipe; steamship *Darien*, Haitian government's steamship *L'Eclaireur*, additional work; general repairs; floating piledriver *No. 2*, (P. R. R.), drydock, clean and paint bottom; repair engine and pump; fit doubling plates on deck; tug *Tavernilla*, drydock, clean and paint bottom, install new propeller, clean main condenser, scale boiler, repair pump, relief valves, overhaul anchor engine, renew water-tight door, make deck doors watertight, make deck plates watertight, repair sea valves, coaming, weld bitts, repair davits, make anchor shackel; supply boat *No. 2*, drydock, clean and paint bottom, calk leaky seam in oil tank, repair sea valves, scale and paint hull above water line; steamships *City of Para*, repair ice machine and 4 toilets, make armature shaft; *Huallaga*, install column on main engine; *Ulysses*, (collier), calk leaky rivets in afterpeak tanks, make 1 iron slop churt, make 12 dogs and latches for boiler doors; *Venezuela*, and *Albaro*, minor repairs; tug *Porto Bello*, drydock, clean, and paint bottom; overhaul main engine; install new propeller; overhaul feed pumps and oil pump, air pumps, and fire pump; overhaul plumbing, clean and overhaul boiler, repair sea valves, renew stern bulwarks; renew floor in pump room; alter engineers' room to run athwart ship; test lifeboat tanks; steamship *Salvador*, overhaul boiler valves and furnace; overhaul fuel pump; schooners *Alva*, drydock, clean, and paint bottom; renew stern tube bearings; *Linda S.*, drydock, clean, and paint bottom; renew faulty timbers in bottom; steamship *Salvador*, miscellaneous repairs to deck department; remake mattresses; overhaul cabin appointments, repair pantry plumbing; launch *Activo*, repair engine; steam-

ships *Macoris*, repair feed pump and air pump; *Bethelridge*, make new bearings for engine; schooner *Laura C. Hall*, drydock; renew faulty timbers in bottom; rebabbit stern bearings; steamship *Cauca*, overhaul boiler valves; make 4 feed check valves; repair main engine lever; renew section of water line; repair ash winch and boiler mountings; Army tug *L-53*, drydock; repair intake pipe; repair circulating pump; minor repairs to steamship *Crynssen*, supply boat *No. 2*, steamships *Santa Luisa*, *Atenas*, *General O. H. Ernst*, *General G. W. Goethals*, submarines *O-2*, *O-11*, and *O-12*.

Notice to Mariners.—Aids to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., April 20, 1923.

The American Gas Accumulator Company is authority for the following:

"An unwatched flashing white light showing one flash every 10 seconds, flash 1 second, eclipse 9 seconds, has been established at Rio Hacha, Colombia, in (approximately) Lat. 11° 33′ 20″ N., Long. 72° 55′ 00″ W.

"The light is 75 feet above the sea and is visible 15 miles over the whole horizon."

It is presumed the fixed red light on the church tower, hitherto on this position, is discontinued.

JAY J. MORROW,
Governor.

Reference to Files of Periodicals in Strangers Club, Colon.

The Strangers Club in Colon has offered to The Panama Canal and its personnel the privilege of reference to its files of periodicals, a courtesy which the Governor has acknowledged with thanks on behalf of the employees.

The Club also invites responsible visitors to the Isthmus to make use of these facilities.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending April 28, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Ulua	United Fruit Co	April 22	April 22	14	63
Antillian	Leyland Line	April 22	April 23	462	660
Aysen	Chilean Line	April 22	April 26	306	713
Abangarez	United Fruit Co	April 22	April 23	567	56
Mantaro	Peruvian Line		April 23		596
Gen. O. H. Ernst	Panama Railroad Steamship Line	April 23	April 25	565	(2)
Salvador	Pacific Steam Navigation Co	April 23		397	
Gen. W. C. Gorgas	Panama Railroad Steamship Line	April 23		1,989	
Crynssen	Royal Netherlands W. I. Mail	April 24	April 24	47	½
Toloa	United Fruit Co	April 24	April 25	213	75
Cacique	Grace Line	April 24	April 25	64	84
Cartago	United Fruit Co	April 24	April 26	933	¼
Tivives	United Fruit Co	April 25	April 26	81	631
San Juan	Pacific Mail Steamship Co	April 25		1,715	
Santa Luisa	Grace Line	April 25	April 26	115	(2)
Almagro	Pacific Steam Navigation Co	April 25	April 26	130	314
San Bruno	United Fruit Co	April 25	April 25	23	100
Lochkatrine	Pacific Steam Navigation Co	April 25	April 26	130	152
Teno	Chilean Line	April 26	April 27	27	52
Indiana	French Line	April 26	April 27	15¼	59
Abangarez	United Fruit Co	April 26	April 26	(1)	17
Gen. G. W. Goethals	Panama Railroad Steamship Line	April 26	April 27	602	131
Carrillo	United Fruit Co	April 26	April 26	6	21½
Crynssen	Royal Netherlands W. I. Mail	April 27	April 28	(1)	614
Macoris	French Line	April 28		458	
Jan Van Nassau	Royal Netherlands W. I. Mail	April 28		98½	
Ucayali	Peruvian Line	April 28		1,162	
Bayano	Elders & Fyffes, Ltd	April 28	April 28	20	(2)
Cauca	Pacific Steam Navigation Co	April 28		1,603	

[1] No cargo discharged. [2] No cargo laded.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., May 9, 1923. No. 39.

Cargo and Net Tonnage Exceed 2,000,000 Tons in April.

The total cargo carried through the Panama Canal during April, 1923, was 2,187,367 tons. This is a new high record, and the first time that the cargo in any one month has exceed two million tons. The previous record cargo, that of March, 1923, was 1,940,928 tons of 2,240 pounds.

The net tonnage of the ships, Panama Canal measurement, also exceeded two million tons for the first time, establishing the new monthly record of 2,007,690 net tons. The previous record was 1,988,192 tons, in March, 1923.

As reported in the issue of last week, the tolls collected in April, $1,878,938.15 on commercial ships, established a new record. The tolls in March amounted to $1,827,718.44.

April set new records in all major features except the number of ships. This was 404, or 5 less than those in March, 1923.

Tanker Tonnage Through Canal Continues to Increase.

The number of tank ships using the Canal continues to increase, and the proportion of tanker tonnage to total tonnage during the month of April was greater than ever before. In the traffic from the Atlantic to the Pacific, tanker tonnage represented 43 per cent of the total, while in the Pacific to Atlantic traffic, tanker tonnage comprised 45 per cent of the whole.

The following statement shows the number of tankers transiting the Canal during April, together with their aggregate tonnage, tolls, and cargo, segregated by flag, and showing eastbound and westbound traffic:

TANKER TRAFFIC THROUGH PANAMA CANAL, APRIL, 1923.

Nationality.	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
United States	65	389,366	$281,414.94	.....
British	8	42,504	37,858.21	34,033
Norwegian	1	4,916	3,539.52	.....
French	1	4,909	3,534.48	.....
Totals	75	441,695	326,347.15	34,033
Pacific to Atlantic:				
United States	62	374,757	391,713.90	713,423
British	10	62,918	56,249.71	99,876
Norwegian	1	5,520	6,624.00	8,880
Totals	73	443,195	454,587.61	822,179

Of the tank vessels bound for the Pacific all but 3 transited the Canal in ballast; the ones carrying cargo being 3 British tankers en route from the east coast of Mexico to the west coast of South America.

Of the northbound vessels, all were laden with the exception of 2 British vessels en route from the west coast of South America to the east coast of Mexico.

The following statement shows Canal traffic for the month of April, segregated between tank ships and general cargo vessels:

TOTAL TRAFFIC THROUGH PANAMA CANAL, APRIL, 1923.

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
Tank ships	75	441,695	$326,347.15	34,033
General cargo vessels	129	580,923	557,777.12	619,558
Totals	204	1,022,618	884,124.27	653,591
Pacific to Atlantic:				
Tank ships	73	443,195	454,587.61	822,179
General cargo vessels	127	541,877	540,226.27	711,597
Totals	200	985,072	994,813.88	1,533,776

In cargo tonnage, it will be noted that mineral oil shipments to the Atlantic exceeded the combined cargo tonnage of all other commodities moving in this direction.

Shipments of California Oil Largely Responsible for Increase in United States Intercoastal Traffic.

During the month of April, tank ships comprised approximately two-thirds of the total tonnage transiting the Canal in the United States intercoastal traffic.

The total intercoastal traffic passing through the Canal during the month, which exceeds that of any previous month, is shown in the following statement, segregated between tank ships and general cargo vessels:

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
Tank ships	58	351,353	$254,762.56	.....
General cargo vessels	37	182,941	176,906.88	239,259
Pacific to Atlantic:				
Tank ships	59	354,298	371,233.35	679,026
General cargo vessels	31	161,916	153,401.56	197,202

In April of last year only 1 tankship engaged in the United States intercoastal trade transited the Canal.

Coaling Records.

A recent issue of a shipping paper contains a brief article on a supposed world's coaling record established when a liner took 1,390 tons of coal in 2 hours.

While the Cristobal coaling plant of the Panama Canal has not delivered the same or a greater amount of bunker coal in less time, it could probably equal or surpass this record under favorable conditions. In the meantime the following comparable records have been made:

On November 25, 1920, the steamship *Wiltshire* took 1,101 tons of coal at Cristobal in 1 hour and 35 minutes, and on December 24, 1920, the steamship *Pakeha* took 1,002 tons in 1 hour and 10 minutes.

Bunker coal is delivered to ships at the Cristobal plant by 4 electrically operated reloaders with a total capacity of 2,000 tons per hour, in addition to which there is at the end of the pier an elevated storage bin, electrically operated, with a capacity of 1,500 tons.

With this equipment coal can be delivered to any ship faster than it can be trimmed in the bunkers, and the speed depends on the amount and difficulty of this trimming. That in turn is governed by the number, size, location and arrangement of the bunkers and whether they are to be filled to maximum capacity.

In its ordinary routine operations it is probable that the Cristobal coaling plant of the Panama Canal makes quicker deliveries than any similar plant in the world.

Valuable Ambergris Cargo.

The steamship *Lime Branch*, under British registry, which transited the Canal on April 24 on her way from Punta Arenas, Chile, to Liverpool, carried among other items of cargo 2 cases of ambergris, weighing approximately 100 pounds, and valued at £3,500 sterling. This vessel also reported one-half ton of gold and silver metal, valued at £1,111 sterling. A third unusual item of cargo carried by this vessel was 7 barrels of sperm teeth.

Notice to Mariners.—Lights, Honduras Bay, Guatemala.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 2, 1923.

The Second Officer of the United Fruit steamship *Turrialba* reports that on March 20, 1923, Cape Three Points Light (approximately) Lat. 15° 57′ N., Long. 88° 41′ W., and Ox Tongue Shoal Light (approximately) Lat. 15° 53′ N., Long. 88° 41′ W., were again burning after being extinguished several months.

On the same day Heredia Shoal Light and Villedo Shoal Light were observed not to be burning.

JAY J. MORROW,
Governor.

Supplement No. 12 to Tariff No. 6.—Salvage Work—Fuel Oil.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., April 28, 1923.

ITEM 5.—TUGS AND SUPPLY BOATS.
(Effective March 23, 1923.)

Add:

9. For tug service engaged in salvage work (per day or fraction thereof, $1,200.00

ITEM 22.—FUEL AND DIESEL OILS.
(Effective May 1, 1923.)

1. Fuel oil, per barrel of 42 gallons, delivered to vessels at either Cristobal or Balboa..... $1.70

Change to read:

3. Pumping oil into and out of private tanks, 4 cents per barrel, each way, excepting, that between the hours of 11 p. m. and 7 a. m., an additional charge of $4.70 per hour will be made for pumping cargoes from ships into storage tanks. A charge of 10 cents per barrel will be made for pumping oil from storage tanks into ships between these hours. Any oil will be handled for storage by The Panama Canal with viscosities up to 300 seconds at 122° F. (Staybolt Furol.)

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 5, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Bethore	28	14.13	29	6.22	29	18.00	30	.36	American	Guaranty Trust Co	550.0	72.0	25.0	New York	Cruz Grande	Ballast		15,476	4,354
West Notus	28	16.08	29	7.32	29	18.42	29	22.30	American	Swayne & Hoyt (S. B.)	410.5	54.0	23.6	Buenos Aires	San Francisco	General	6,100	6,583	4,914
Jan Van Nassau	28	1.45	29	8.37	29	19.28	29	20.35	Dutch	Royal Netherlands W. I. Mail	346.0	44.2	21.3	Hamburg	Guayaquil	General	3,040	3,819	2,632
Bethelridge	29	3.30	29	9.40	29	20.30	30	2.05	American	Walker & Daly (S. B.)	431.0	59.2	20.0	New York	Los Angeles	Ballast		7,819	5,007
City of Victoria	29	9.23	29	10.35	29	21.25	30	11.43	British	Canadian Steamship Co	411.5	54.1	24.0	Antwerp	Vancouver	General	7,000	6,612	4,998
Standard	29	12.15	29	12.25	29	22.00	30	2.05	American	Standard Oil Co	523.0	68.0	22.0	New York	Los Angeles	Ballast		12,171	8,673
San Juan	25	19.33	30	6.05	30	13.30	30	18.00	American	Pacific Mail Steamship Co	283.0	37.0	15.0	Cristobal	San Francisco	General	301	2,379	1,593
Sabine Sun	29	13.55	30	6.30	30	14.25	30	18.45	American	Sun Oil Co	429.3	59.2	20.0	Chester	Los Angeles	Ballast		7,621	5,182
Byron D. Benson	29	19.50	30	7.15	30	14.45	30	15.41	American	Tidewater Oil Co	465.4	60.2	20.0	New York	Los Angeles	Ballast		8,546	6,095
Japan Arrow	30	5.10	30	8.23	30	15.39	30	16.45	American	Standard Transportation Co	468.3	62.7	20.7	New York	Los Angeles	Ballast		10,084	7,426
City of Pekin	30	6.25	30	8.55	30	16.36	30	17.44	British	Ellerman Lines, Ltd	442.0	58.9	28.0	New York	Yokohama	General	9,063	9,048	6,846
Mobile City	30	6.40	30	9.30	30	18.04	5-1	1.39	American	U. S. Steel Products Co	397.0	55.0	26.6	Baltimore	Seattle	(1)	8,676	7,330	5,241
Huallaga	7	23.55	30	10.55	30	18.43	30	19.50	Peru	Peruvian Steamship Line	360.0	44.7	20.9	Cristobal	Buenaventura	General	179	4,514	2,386
Saint Joseph	29	10.32	30	12.07	30	20.34	30	20.44	French	French Steamship Line	397.0	51.0	16.2	Antwerp	Valparaiso	General	470	5,979	4,170
Knoxville City	30	14.57	5-1	6.07	5-1	14.39	1	15.45	American	Isthmian Steamship Lines	424.2	56.2	25.10	New Orleans	Fusan	(2)	8,114	7,611	5,450
J. A. Moffett, Jr.	30	16.55	1	7.10	1	15.05	1	15.58	American	Standard Oil Co	499.2	68.1	22.6	New York	Los Angeles	Ballast		11,037	7,995
Yankee Arrow	30	22.15	1	7.35	1	16.06	1	17.30	American	Standard Transportation Co	468.0	62.6	27.6	Beaumont	Woosung	Refined oil	11,026	9,841	6,946
Deroche	30	23.22	1	8.24	1	17.35	1	18.34	American	Union Oil Co	435.0	56.0	20.0	New Orleans	Los Angeles	Ballast		7,613	5,340
Samuel Q. Brown	5-1	2.40	1	9.00	1	16.45	1	20.17	American	Tidewater Oil Co	424.4	58.2	25.6	New York	Los Angeles	Ballast		7,333	5,246
Durango	1	8.15	1	9.35	1	18.18	2	.16	American	Malston Line	435.0	56.0	16.6	New York	Los Angeles	Ballast		7,642	5,274
Nitokris	4-30	23.55	1	10.25	1	19.07	1	20.43	German	Kosmos Steamship Line	429.3	50.6	23.6	Hamburg	Guayaquil	General	3,375	6,652	4,704
I. C. White	1	15.20	2	6.20	2	13.41	2	21.35	American	Pan-American Petroleum Co	429.3	59.2	22.8	New Orleans	Los Angeles	Ballast		7,925	5,743
Ecuador	1	9.07	2	6.46	2	13.51	2	23.25	American	Pacific Mail Steamship Co	380.0	48.7	23.6	New York	San Francisco	General	4,000	5,926	4,178
Sunbeam	2	4.40	2	7.38	2	14.50	2	16.15	American	Sun Oil Co	429.3	59.2	19.0	Chester	Los Angeles	Ballast		7,709	5,481
West Greylock	2	6.00	2	8.00	2	15.56	2	20.55	American	Argonaut Steamship Co	430.0	54.0	28.6	Baltimore	San Francisco	Steel, tin plates	10,047	7,946	5,698
Commercial Guide	2	6.30	2	9.00	2	17.20	3	1.43	American	Moore & McCormack, Inc	406.7	55.2	24.6	New York	Seattle	General	7,240	6,597	4,752
Agwibay	2	18.10	3	6.25	3	13.15	3	18.05	American	Guarantee Trust Co	468.3	62.7	19.0	New York	Los Angeles	Ballast		9,776	6,903
Castle Town	3	.30	3	6.35	3	14.17	3	17.15	American	Chas. McCormick S. S. Co	321.0	50.0	20.0	Galveston	San Francisco	Sulphur	3,793	3,570	2,203
Ohican	3	.37	3	7.28	3	15.03	3	16.10	American	American-Hawaiian Line	407.0	53.7	23.6	New York	Los Angeles	General	5,185	7,112	4,896
Margaret Dollar	3	5.40	3	8.10	3	16.04	3	20.45	American	Dollar Line	429.0	55.2	26.6	Baltimore	Los Angeles	General	8,150	7,579	5,527
East Wind	3	6.24	3	8.40	3	17.10	3	18.45	American	U. S. & A Line (S. B.)	384.3	51.2	24.0	New York	Adelaide	General, oil	4,250	5,966	4,442
Wray Castle	3	14.52	4	6.18	4	13.44	4	15.15	British	James Chambers & Co	419.3	55.8	27.2	New York	Yokohama	General	8,162	6,861	5,016
Winnebago	3	13.45	4	6.34	4	14.30	4	15.40	British	Anglo-American Oil Co	369.3	50.1	16.3	Manchester	San Francisco	Ballast		4,763	3,344

[1] Iron pipe, steel, and general.

[2] Steel, cotton, rosin, and sulphate of ammonia.

Agwilake	4	2.10	4	7.25	4	15.58	4	22.45	American	Atl. Gulf & West India S. S. Co.	468.3	62.7	18.0	Boston	Los Angeles	Ballast		9,802	6,957
R-25 [a]			4	7.40	4	15.40			American	U. S. Navy	175.0	16.7		Cristobal	Balboa	Ballast			
British Star	4	2.40	4	8.25	4	16.12	4	17.25	British	Anglo-Saxon Petroleum Co.	430.5	57.0	20.0	Curacao	Los Angeles	Ballast		7,174	4,964
Eurana	4	4.45	4	9.08	4	17.04	4	18.25	American	New York Ship Building Co.	435.8	56.3	18.0	New York	Los Angeles	Ballast		6,989	4,976
Agwistar	4	12.04	4	12.15	4	18.28	4	23.55	American	New York & Cuba Mail S. S. Co	370.0	53.1	21.0	New York	Los Angeles	General	5,025	5,523	4,068
Eburna	4	17.25	5	6.27	5	14.03	5	19.30	British	Anglo-Saxon Petroleum Co.	380.2	52.7	17.0	Southampton	Los Angeles	Ballast		5,058	3,293
Cauca	4	-28 18.55	5	7.08	5	14.53	5	15.55	British	Pacific Steam Navigation Co.	246.0	35.0	14.9	Cristobal	Acajutla	Ballast		1,539	1,018
Robin Hood	4	23.47	5	7.26	5	15.44	5	22.55	American	Seas Shipping Co.	424.8	55.0	27.0	New York	Los Angeles	General	8,952		
Daghestan	5	6.33	5	8.25	5	16.24	5	16.34	British	Hindustan S. Shipping Co.	494.0	52.0	18.0	Southampton	Los Angeles	Ballast		6,355	4,599
James B. Duke	5	6.47	5	8.58	5	17.40	6	1.00	American	Garland Steamship Corporation	385.0	51.0	25.6	New York	Seattle	Gen, iron pipe	7,060	6,242	4,471
Salvador	4	-23 19.15	5	10.28	5	18.54	6	1.39	British	Pacific Steam Navigation Co.	215.0	33.0	15.7	Cristobal	Champerico	General	865	1,270	735
E. L. Doheny, III	5	6.25	5	11.55	5	20.31	5	21.45	American	Pan-American Petroleum Co.	467.6	62.7	18.6	New York	Los Angeles	Ballast			
Ionic	4	20.12	5	11.25	5	19.44	5	20.40	British	Oceanic Steam Navigation Co.	500.3	63.3	26.2	London	Wellington	General	4,735	12,872	9,577
William Rockefeller	5	12.47	5	13.00	5	21.35	5	22.40	American	Standard Oil Co.	554.9	75.0	25.0	New York	Los Angeles	Ballast		14,785	10,313

[a] Submarine.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Colombia	28	6.33	29	7.03	29	15.35	30	15.30	American	Pacific Mail Steamship Co.	380.0	48.0	24.0	San Francisco	New York	General	2,583	6,015	4,281
Tuxpanoil	28	12.47	29	7.10	29	15.45	29	15.45	American	McAllister Bros.	431.0	59.2	26.0	San Pedro	Philadelphia	Crude oil	9,500	9,862	4,979
Agwismith	28	14.25	29	8.07	29	17.02	29	17.02	American	Ward Line	499.9	68.1	28.0	San Pedro	New York	Crude oil	15,257	10,600	7,447
Nordvaag	28	14.50	29	8.34	29	18.40	29	20.40	Norwegian	New Orleans & S. A. S. S. Co.	340.0	40.1	19.10	Iquique	New Orleans	Nitrate	3,726	2,781	1,813
Illingworth	28	19.05	29	8.53	29	18.05	29	18.05	British	Dagliesh Shipping Co.	430.0	56.0	26.0	Tocopilla	Wilmington	Nitrate	8,760	6,987	4,933
F. H. Hillman	28	20.30	29	8.58	29	19.19	29	19.19	American	Standard Oil Co.	500.0	68.2	30.0	Los Angeles	London	Gasoline	13,800	11,225	7,913
Edgar Bowling	29	8.10	29	11.10	29	20.37	30	2.05	American	Garland Steamship Co.	410.5	54.3	24.0	Grays Harbor	New York	Lumber, copper	8,000	6,568	4,909
Lumina	28	22.30	29	12.15	29	21.38	29	22.40	British	H. E. Moss & Co.	407.0	52.3	24.6	San Pedro	Southampton	Benzine	7,435	5,940	4,108
Corinthic	28	8.45	29	12.56	29	23.30	30	6.10	British	Oceanic Steam Navigation Co.	500.0	63.3	26.0	Auckland	London	Cold storage, gen.	7,566	12,821	9,507
Balboa	29	12.00	29	13.24	30	.07	5-1	16.50	Colombia	Compania Costernia Colombia	190.0	29.1	15.4	Tumaco	Pto. Colombia	General	580	737	335
Cecil County	29	9.45	29	14.59	30	.10	30	.10	American	Walker & Daly	430.0	59.0	25.0	San Pedro	Fall River	Crude oil	10,374	8,097	5,261
Alda	30	4.00	30	7.56	30	15.45	30	16.45	German	Roland Line	361.0	51.0	23.3	Corral	Hamburg	General	6,043	4,791	3,392
Manavi	30	8.42	30	10.05	30	16.42			British	Pacific Steam Navigation Co.	216.0	35.1	14.2	Guayaquil	Cristobal	General	835	1,357	884
Santa Ana	30	9.22	30	10.43	30	17.25	30	20.45	American	Grace Line	360.2	51.6	24.10	Talcahuano	New York	General	4,234	5,776	4,081
San Leon	30	9.56	30	11.01	30	18.54	30	18.54	British	Eagle Oil Co.	395.5	55.2	27.3	San Pedro	Tampico	Crude oil	8,479	6,741	4,426
Hahatonka	30	2.29	30	11.38	30	19.51	30	19.51	American	McAllister Bros.	435.6	56.2	28.0	San Pedro	Fall River	Crude oil	([c])	7,426	5,094
Tamaha	30	13.20	30	13.57	30	20.45	30	22.42	British	Standard Transp. Co. of Del.	420.6	54.4	20.0	Tocopilla	Tampico	Ballast		6,673	4,689
Walter A. Luckenbach	30	23.25	5-1	7.48	5-1	14.23	1	14.23	American	Luckenbach Line	446.5	56.1	27.8	Portland	New York	General	5,998	8,785	6,567
Diadem	5-1	5.57	1	8.29	1	16.13	1	16.50	British	Hall Bros.	390.0	54.0	25.0	Cruz Grande	Baltimore	Iron ore	7,450	5,918	4,142
H. M. Storey	1	6.00	1	9.18	1	18.05	1	18.05	American	Standard Oil Co.	500.0	68.2	29.3	Los Angeles	New York	Crude oil	15,000	11,224	7,849
Knight Templar	1	8.54	1	9.53	1	18.53	1	18.53	British	A. Holt & Co.	470.0	58.0	26.0	Vancouver	London	General	9,310	8,120	5,808
Agwipond	1	3.00	1	11.29	1	21.13	1	21.13	American	Ward Line	468.3	62.7	28.0	San Pedro	Baltimore	Crude oil	([d])	9,810	6,871
J. R. Gordon	1	11.10	1	11.35	1	19.58	1	19.58	American	Union Sulphur Co.	409.8	54.2	14.6	San Pedro	Sabine	Ballast		6,581	4,784
Muuindies	1	20.45	2	7.18	2	13.50	2	13.50	American	Munson Line	370.0	53.1	24.6	Portland	New York	Lumber	([e])	5,525	4,097
Albertolite	2	5.30	2	8.32	2	16.13	2	18.55	British	Imperial Oil Co.	463.0	60.2	28.11	San Pedro	Montreal	Crude oil	11,893	8,491	6,096
Eastern Moon	2	8.54	2	9.35	2	17.30	2	20.45	American	U. S. and A. Lines	384.8	51.0	21.0	Newcastle	New York	General	3,413	5,904	4,321

[c] 68,000 barrels. [d] 92,205 barrels. [e] 270,000 board feet.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Virginian	2	12.20	2	13.10	2	20.40	3	.15	American	American-Hawaiian Line	491.5	58.2	29.0	Seattle	Hamburg	General	10,000	10,491	7,546
Oropesa	2	12.45	2	14.27	2	22.13	3	16.22	British	Pacific Steam Navigation Co	552.0	66.0	23.0	Valparaiso	Liverpool	General	3,711	14,510	10,260
Utacarbon	2	13.40	2	15.03	2	23.13	3	5.10	American	Union Oil Co	435.0	56.0	29.6	Los Angeles	Baltimore	Crude oil	(7)	7,451	5,195
U. S. S. Capella	2	11.45	3	7.07	3	13.45	4	17.10	American	U. S. Navy	401.0	54.0	24.5	San Diego	Hampton Rds.	General	1,617		
Montrolite	2	15.23	3	8.02	3	15.35	3	16.45	British	Imperial Oil Co	420.7	57.3	25.0	Talara	Habana	Crude oil	8,209	7,378	4,898
Borgland	2	23.00	3	8.15	3	16.40	3	16.40	Norwegian	Norway Pacific Line	362.0	51.5	23.0	San Francisco	Christiania	General	5,000	5,274	3,886
Steel Ranger	2	23.30	3	9.17	3	17.07	3	17.07	American	Isthmian Steamship Lines	424.2	56.2	23.5	Seattle	New York	Gen., lumber	8,300	7,611	5,450
Cathwood	3	2.30	3	9.45	3	17.54	3	17.54	American	Union Oil Co	435.0	56.0	28.10	San Pedro	Fall River	Crude oil	10,000	7,481	5,194
Ebro	3	1.30	3	10.02	3	19.26	3	23.19	British	Pacific Steam Navigation Co	450.0	58.0	25.0	Valparaiso	New York	General	3,928	9,151	6,227
Noma[8]	2	21.30	3	11.34	3	19.10	6	15.25	American	H. Williams	236.0	28.0	16.0	Galapagos	New York	Ballast		803	424
Swiftstar	3	16.30	4	6.53	4	15.27	4	15.27	American	C. D. Mallory & Co	464.6	60.2	25.6	San Pedro	Fall River	Crude oil	(12)	8,473	6,050
Cardiganshire	3	19.15	4	8.02	4	16.33	4	16.33	British	Royal Mail Steam Packet Co	499.3	62.4	29.0	Vancouver	Rotterdam		(10)	10,112	11,420	8,385
Fred W. Weller	3	21.00	4	8.17	4	19.03	5	.08	American	Standard Oil Co. of N. J	500.0	68.0	28.0	San Pedro	New York	Crude oil	15,000	10,928	7,710
Negada	4	7.15	4	9.06	4	18.05	4	21.10	German	Kosmos Line	401.0	51.0	24.0	Chile	Hamburg	General	6,347	6,402	4,463
Agwiworld	4	4.20	4	11.44	4	19.58	5	6.55	American	Ward Line	429.3	59.2	27.6	San Pedro	Boston	Crude oil	9,966	7,552	5,398
Craster Hall	4	11.30	4	12.48	4	21.55	4	22.58	American	Isthmian Steamship Lines	380.0	50.0	25.0	Vancouver	Liverpool	General	5,900	4,945	3,508
Frederick Ewing	4	14.45	5	6.52	5	15.15	5	15.15	American	Mexican Petroleum Co	435.5	56.0	26.6	Los Angeles	New Orleans	Crude oil	11,127	7,465	5,176
Swiftarrow	4	15.40	5	7.50	5	16.40	5	16.40	American	C. D. Mallory & Co	461.0	60.0	27.5	San Pedro	Fall River	Crude oil	(13)	8,473	6,050
S. M. Spalding	4	15.25	5	8.05	5	16.55	5	22.00	American	Huasteca Petroleum Co	435.0	56.0	27.0	Los Angeles	New York	Crude oil	10,909	7,331	5,080
Orcus	4	16.00	5	9.16	5	17.45	5	17.45	American	Wessel Duval & Co	380.2	53.1	23.9	Iquique	Norfolk	Nitrates	6,806	5,667	4,227
Acajutla	4	17.00	5	9.26	5	17.55	.....	.....	British	Pacific Steam Navigation Co	215.7	33.5	17.3	Champerico	Cristobal	Coffee, sugar	1,102	1,273	705
Kennecott[9]	4	8.30	5	9.58	5	18.02	6	7.07	American	Williams Steamship Co	345.3	49.6	23.6	Seattle	New York	Lumber, gen	4,925	4,593	3,381
Geo. H. Jones	4	20.15	5	10.04	5	19.18	5	19.18	American	Standard Oil Co. of N. J	429.3	59.2	28.0	San Pedro	New York	Crude oil	10,000	7,689	5,286
Dixie Arrow	5	1.00	5	11.11	5	20.15	5	20.15	American	Standard Transportation Co	468.3	62.0	19.0	Manila	New York	Coconut oil	4,317	9,741	6,973
Dryden	4–26	21.26	5	11.34	5	21.30	6	15.18	American	Tampa Ocean Steamship Co	450.0	57.7	26.4	Saigon	New York	General	6,750	7,983	5,882
Matinicock	4	23.00	5	12.08	5	22.35	5	22.35	American	Standard Oil Co. of N. J	459.1	60.0	25.6	San Pedro	New York	Crude oil	9,200	8,172	5,882
Pacific	5	4.45	5	13.29	5	23.37	5	23.37	American	Isthmian Steamship Lines	399.7	56.2	25.1	Vancouver	New York	(11)	7,334	6,479	6,016
Kentuckian	5	10.32	5	11.25	6	.59	6	.50	American	American-Hawaiian Line	414.5	53.0	23.6	Puget Sound	Boston	Ballast		7,049	4,941

[7] 74,000 barrels refining. [8] Yacht. [9] Motor schooner. [10] Grain, lumber, canned and fresh fruits, etc. [11] Lumber shingles, and lathes. [12] 80,000 barrels. [13] 80647 barrels.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
April 29	Atenas	United Fruit Co	New Orleans via Habana.
April 29	Toloa	United Fruit Co	Port Limon.
April 30	Antiochia	Hamburg-American Line	Puerto Barrios.

*DEPARTURES.

Date.	Vessel.	Line.	For—
April 29	Toloa	United Fruit Co	New York via Habana.
April 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
April 30	Macoris	French Line	Havre via wayports.

(Continued on page 520, column 2.)

Commercial Traffic Through the Panama Canal in March, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States intercoastal:							
United States	95	442,529	534,294	691,482	440,978	$431,668.36	238,636
From United States to Far East:							
British	9	41,167	53,943	62,650	40,585	51,458.75	71,951
United States	4	17,072	22,551	24,383	15,173	21,340.00	29,754
Japanese	3	11,126	13,905	17,883	10,939	13,907.50	20,441
Norwegian	1	4,108	5,131	6,552	4,122	5,135.00	9,509
Totals	17	73,473	95,530	111,468	70,819	91,841.25	131,646
From United States to South America:							
United States	8	23,265	30,616	39,540	23,085	26,040.79	15,912
Danish	3	7,809	9,136	10,098	6,226	9,366.36	5,983
Norwegian	2	4,336	5,935	6,947	4,244	4,273.20	.....
British	2	6,218	7,941	10,944	6,612	7,772.50	3,241
Chilean	1	3,511	4,705	7,310	3,976	4,388.75	1,646
Totals	16	45,139	58,333	74,839	44,143	51,841.60	26,782
From Europe to South America:							
British	5	18,432	24,189	29,707	18,647	23,040.00	16,365
German	3	8,884	11,603	14,482	8,883	11,105.00	9,756
Italian	2	7,357	9,025	12,516	7,451	9,196.25	1,732
French	2	7,964	8,533	11,699	7,432	9,783.10	737
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	5,754
Totals	14	47,193	59,177	75,715	46,917	58,819.35	34,344
From Europe to United States:							
British	5	19,653	24,229	32,373	19,807	17,539.56	8,900
United States	4	19,651	22,679	28,954	17,784	18,348.86	8,500
Danish	1	3,378	5,219	5,497	3,425	4,222.50	8,423
Norwegian	1	4,315	4,916	7,102	4,434	3,539.52	.....
French	1	4,217	4,909	7,011	4,143	3,534.48	.....
Totals	12	51,214	61,952	80,937	49,593	47,184.92	25,823
From United States to Australasia:							
British	8	31,258	40,078	48,779	30,796	39,072.50	46,003
United States	1	4,530	4,561	5,840	4,497	5,473.20	4,200
Totals	9	35,788	44,639	54,619	35,293	44,545.70	50,203
From Cristobal to South America:							
Chilean	2	3,072	5,224	6,543	3,921	3,840.00	1,596
Peruvian	2	2,719	5,345	9,020	4,517	3,398.75	764
Colombian	2	668	670	1,728	1,228	804.00	76
British	2	612	956	1,152	715	765.00	781
Totals	8	7,071	12,195	18,443	10,381	8,807.75	3,217
From Europe to Canada:							
British	3	12,838	16,782	20,305	12,709	16,047.50	15,955
United States	1	4,319	5,519	7,032	4,319	5,398.75	8,137
French	1	4,089	4,936	5,617	3,491	5,111.25	1,793
Totals	5	21,246	27,237	32,954	20,519	26,557.50	25,885
From Europe to Australasia:							
British	4	24,059	32,056	38,113	24,210	30,073.75	32,284
From Mexico to South America:							
British	3	16,481	18,536	26,673	16,413	20,601.25	34,033
From Cristobal, C. Z., to United States:							
United States	3	4,848	5,962	7,965	4,825	6,060.00	3,115
From Cristobal, C. Z., to Central America:							
British	2	1,495	1,724	2,618	1,544	1,530.46	839
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,178
Totals	3	3,658	4,183	6,022	3,707	4,234.21	2,017
From South America to United States:							
United States	2	9,717	13,357	16,186	9,717	12,146.25	12,800
From Canada to Australasia:							
British	2	7,661	8,506	10,349	6,398	9,359.50	10,062
From West Indies to United States:							
United States	2	4,972	5,088	7,212	5,432	3,750.75	.....
From United States to Balboa, C.Z.							
United States	1	6,960	7,689	9,316	7,174	8,700.00	10,060
From West Indies to Canada:							
British	1	3,611	4,999	5,704	3,531	4,513.75	7,564

ATLANTIC TO PACIFIC.—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From South America to Far East:							
Japanese	1	3,677	4,118	5,853	3,621	$4,596.25	2,943
From Canada to South America:							
British	1	4,360	5,045	7,116	3,997	3,632.40	.....
From Central America to United States:							
United States	1	4,149	4,959	6,653	4,154	3,570.48	.....
From Mexico to United States:							
United States	1	4,203	5,025	6,703	4,203	3,618.00	.....
From Europe to Central America:							
German	1	2,393	3,381	4,015	2,434	2,991.25	1,300
From United States to Central America:							
British	1	2,502	3,406	3,914	2,533	3,127.50	151
South American intercoastal:							
Peruvian	1	1,506	2,951	4,744	2,673	1,882.50	506
Totals, April, 1923	204	828,410	1,022,618	1,306,995	823,665	884,124.27	653,369
Totals, April, 1922	121	409,406	520,688	650,055	410,266	505,319.46	562,433
Totals, April, 1921	118	397,568	492,506	615,818	391,141	490,505.91	500,801

PACIFIC TO ATLANTIC.

							Long tons.
United States Intercoastal:							
United States	90	423,176	516,214	659,979	422,051	$524,634.91	876,228
From South America to United States:							
United States	8	24,042	29,569	42,065	24,188	29,932.80	58,273
Norwegian	8	21,696	27,666	34,523	21,299	27,120.00	54,826
British	7	30,152	35,202	46,791	28,610	37,442.10	55,986
Japanese	2	8,429	9,777	12,459	8,292	10,536.25	17,545
Danish	2	5,372	6,140	8,514	5,291	6,715.00	12,592
Italian	1	4,738	5,359	7,746	4,798	5,922.50	9,300
Chilean	1	3,479	4,672	7,289	3,886	4,348.75	4,022
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,100
Totals	30	101,047	122,432	164,563	99,594	125,941.15	220,744
From South America to Europe:							
United States	2	10,545	12,546	15,243	10,574	12,896.80	20,597
British	6	24,639	29,824	36,385	22,829	30,563.05	39,781
German	4	12,230	17,247	19,980	12,287	15,287.50	27,195
Dutch	2	5,859	9,776	9,570	6,050	7,323.75	12,897
Italian	2	5,311	6,103	8,343	4,916	6,636.75	6,869
French	1	3,566	4,081	5,681	3,600	4,457.50	7,208
Peruvian	1	2,341	2,697	3,445	2,214	2,926.25	5,000
Totals	18	64,491	82,274	98,647	62,470	80,091.60	119.547
From South America to Cristobal:							
British	4	1,224	1,912	2,304	1,430	1,530.00	1,300
Peruvian	3	3,708	7,750	12,325	6,031	4,635.00	3,743
Chilean	2	3,072	5,224	6,543	3,921	3,840.00	447
Colombian	1	334	335	615	373	402.00	519
Panaman	1	31	50	175	157	38.75	65
Totals	11	8,369	15,271	21,962	11,912	10,445.75	6,074
From Australasia to Europe:							
British	6	32,279	40,323	52,243	32,274	40,348.75	35,572
From Canada to United States:							
United States	5	18,490	23,212	29,889	18,555	23,112.50	29,940
Japanese	1	4,991	5,107	6,710	4,800	6,238.75	7,492
Totals	6	23,481	28,319	36,599	23,355	29,351.25	37,432
From Central America to Cristobal, C. Z.:							
British	4	3,000	3,477	5,194	3,084	3,750.00	4,269
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	2,357
Totals	5	5,163	5,936	8,598	5,247	6,453.75	6,626
From United States to Mexico:							
British	4	27,749	31,989	43,991	27,640	34,686.25	58,336
From Far East to United States:							
United States	2	10,244	11,912	14,485	10,096	12,805.00	17,903
Japanese	2	7,946	9,932	12,812	7,886	9,932.50	13,741
Totals	4	18,190	21,844	27,297	17,982	22,737.50	31,644
From Canada to Europe:							
Dutch	1	5,776	7,551	9,399	5,814	7,220.00	9,769
British	1	5,457	5,478	6,999	5,319	6,573.60	9,900
United States	1	3,749	4,686	6,081	3,749	4,686.25	8,341
French	1	3,289	4,934	5,379	3,199	4,111.25	7,260
Totals	4	18,281	22,649	27,858	18,081	22,591.10	35,270

PACIFIC TO ATLANTIC.—Continued.

Route and registry.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From United States to Europe:							
United States	1	6,067	7,913	9,836	6,006	$7,583.75	13,800
British	2	8,873	10,831	14,191	9,020	11,091.25	17,525
Norwegian	1	5,399	5,520	7,277	5,054	6,624.00	8,880
Totals	4	20,339	24,264	31,304	20,080	25,299.00	40,205
From United States to Canada:							
British	2	11,733	12,445	17,940	11,388	14,404.65	24,655
From United States to West Indies:							
British	1	4,136	4,964	6,888	4,080	5,170.00	9,450
United States	1	2,548	2,506	3,286	2,072	3,185.00	2,929
Totals	2	6,684	7,470	10,174	6,152	8,355.00	12,379
From South America to Mexico:							
British	2	8,355	9,412	13,831	8,306	6,776.64	
From west coast of South America to east coast of South America:							
Peruvian	1	2,690	2,787	3,600	2,674	3,344.40	429
Colombian	2	668	670	1,230	746	813.60	998
Totals	3	3,358	3,457	4,830	3,420	4,158.00	1,427
From Balboa, C. Z., to Gatun Lake, C. Z.:							
United States	2	10,690	12,394	15,393	10,903	10,198.58	2,700
From United States to Cristobal, C. Z.:							
United States	2	2,986	3,756	4,796	2,963	3,732.50	2,563
From United States to South America:							
United States	1	5,753	7,526	9,959	5,753	7,191.25	5,107
From Australasia to United States:							
United States	1	4,309	4,944	6,848	4,280	5,386.25	3,000
From South America to Africa:							
Dutch	1	4,102	4,944	6,535	4,129	5,127.50	7,226
From Australasia to Canada:							
British	1	3,245	4,092	5,399	3,333	4,056.25	5,000
From Central America to Europe:							
German	1	2,277	3,117	3,810	2,355	2,846.25	2,041
Totals, April, 1923	200	806,047	985,072	1,272,556	803,668	994,813.88	1,533,776
Totals, April, 1922	121	409,406	520,688	650,055	410,266	505,319.46	562,433
Totals, April, 1921	118	397,568	492,506	615,818	391,141	490,505.91	500,801

Ships at Canal Repair Shops.

The following vessels were at Balboa shops for repairs during the week ended April 16:

Yacht *Goodwill*, dock and undock; stage and clean underwater body; paint 1 coat of anti-fouling and 2 coats of anti-corrosive; draw tail shaft; repair bearings; examine stuffing box; change lever on main engine clutch; running repairs to main engines, generator engines; repair rudder trunk; calk or weld loose or leaky rivets in the hull; and perform miscellaneous minor operating repairs to deck and steward's departments; launch *Garachine*, remove launch from water and replace; balance and straighten spare propeller; general repairs to gas engine; manufacture and install miscellaneous piping; recalk hull; install new shoe on keel and install copper sheathing over entire underwater body; paint launch inside and outside; steamships *G. Harrison Smith*, make repairs to damaged bottom by installing concrete bulkhead and framing; repair pump cylinder head, and manufacture new cylinder head; *American Star*, furnish services of diver and diving outfit to plug up leaks of damaged shell on the outside, and install concrete bulkhead in framing, on the inside of the hull in wake of damages; repair winch crankshaft, fire pump, ballast pump, and minor incidental repairs; *Josiah Macy*, weld and rebabbit steering gear cap; *Lord Almont*, repairs to miscellaneous galley equipment; cableship *Guardian*, dock and undock; stage and clean; paint underwater bottom 1 coat of anti-corrosive and 1 coat of anti-fouling boot topping and draft marks; running repairs to steering gear; repair fresh water pump, feed pump, main steam and exhaust lines, shorten link of anchor chain, grind in sea valves;

install chafing battens on hull and retube center fires of both boilers; miscellaneous repairs to deck department; submarines *R–21*, dock and undock, paint bottom, and perform regular routine docking repairs; submarine *R–23*, dock and undock, paint bottom, and perform regular routine docking repairs.

PREVIOUSLY REPORTED.

Steamship *Colon*, dock and undock, paint bottom, reboiler and perform general repairs to the ships' hull and equipment in all divisions of the ship; barge *No. 133*; renew bad order deck plates; test all tanks; straighten hopper brasses and framing, renew bad order fenders; hopper sheathing, and line up winding machinery; install landing frame on deck for dippers.

The following vessels were at Cristobal shops for repairs during the week ended May 8:

Steamship *Manavi*, drydock; clean, and paint bottom; renew Keeper for tail shaft nut; repair lead block; test and repair main condenser; repair boiler valves, steam gauge; renew joints in main steam line; renew 1 length of main feed line; repair sanitary pipe; test boiler; renew tube and plugs on boiler; renew stop valve seat and cover; repair life boats and blocks; hatch rails, davit, anchor chains and skids; yacht *Noma*, overhaul dynamo; steamships *Acajutla*, drydock, clean and paint bottom; remove tail shaft and rewood bushing; repair fuel pump and valve; remake mattresses and pillows, wooden blocks, hand rail, anchor chains; make springs and chisels; *Breda*, repair condenser and windlass; *Odenwald*, make 50 iron piston rings, 20 brass rings, and 12 springs; repair oil pump; make steel tubing; *Ancon*, furnish 12 men to clean boilers and fire room; make 200 linear feet of cant strips; submarines *O–2*, *O–3*, *O–5*, *O–6*, *O–8*, *O–9*, *O–11*, *O–14*, and *O–15*, make 46 castings for piston rings, liners and flanges; U. S. Navy tug *Quail*, drydock, clean, and paint bottom; general overhauling; submarine *R–26*, drydock, clean, and paint bottom; general overhauling; steamships *Ebro*, *Salvador*, and *Spalding*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending May 5, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged.	Cargo— Laded.
				Tons.	*Tons.*
Macoris	French Line		April 29		1,001
Jan Van Nassau	Royal Netherlands W. I. Mail		April 29		36
Gen. W. C. Gorgas	Panama Railroad Steamship Line		April 29		2,296
Toloa	United Fruit Co	April 29	April 29	(1)	72
St. Joseph	French Line	April 29	April 30	73	(2)
Colombia	Pacific Mail Steamship Co	April 29	April 30	653	843
Atenas	United Fruit Co	April 29	April 30	313¼	121
San Juan	Pacific Mail Steamship Line		April 30		325
Balboa	Cia. Costancia Colombiana	April 29	May 1	550	9
Antiochia	Hamburg-American Line	April 30	April 30	114	134
Santa Ana	W. R. Grace & Co	April 30	April 30	(1)	29
Manavi	Pacific Steam Navigation Co	April 30		835	
Ecuador	Pacific Mail Steamship Line	May 1	May 2	91	107
Calamares	United Fruit Co	May 1	May 2	595	374
Heredia	United Fruit Co	May 1	May 3	901	133
San Blas	United Fruit Co	May 1	May 3	5½	(2)
Oropesa	Pacific Steam Navigation Co	May 2	May 3	(1)	518
Metapan	United Fruit Co	May 2	May 3	629	120
Atenas	United Fruit Co	May 3	May 3	3	15
Panama	Panama Railroad Steamship Line	May 3		1,834	
Ebro	Pacific Steam Navigation Co	May 3	May 3	29	90
Statesman	Leyland Line	May 4	May 5	459	(2)
Salvador	Pacific Steam Navigation Co		May 5		872
Dryden	Tampa Inter Ocean S. S. Line	May 5	May 5	178	(2)
Kina	Danish East Asiatic Co	May 5		158	
Breda	Royal Netherlands W. I. Mail	May 5		409	
Acajutla	Pacific Steam Navigation Co	May 5		1,102	

[1] No cargo discharged. [2] No cargo laded.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 7, 1923.

The Commanding Officer of the U. S. S. *Mahan* reports a gradual shoaling is taking place on the bar at the entrance to Bluefields, Nicaragua, and that steamers drawing 11 feet have touched bottom when crossing the bar in the smoothest sea.

He also reports the following aids have been placed by the Cuyamel Fruit Company at Pearl Cays:

(*a*) A mooring buoy is moored in 8 fathoms of water about 500 yards westward of the center of the Little Tungwarra Cay. A good anchorage is found about 500 yards southwestward of this buoy. Approximate position: 12° 29′ 30″ N., 83° 23′ 25″ W.

(*b*) A temporary buoy, painted red and black in horizontal bands, marks the shoal located 0.5 mile southwestward from Buttonwood Cay.

(*c*) Two fixed white oil lights, one on either end of a yard placed east and west on a mast 60 feet high, are being established on the southern end of Buttonwood Cay.

JAY J. MORROW, *Governor.*

Causes of Accidents.

THE PANAMA CANAL, DEPARTMENT OF OPERATION AND MAINTENANCE,
BALBOA HEIGHTS, C. Z., April 26, 1923.

MEMORANDUM FOR ALL STEAMSHIP AGENTS:

1. There has been an increase recently in the number of accidents in the Panama Canal due to the following causes:

(*a*) Engine power too low;

(*b*) Rudder too small;

(*c*) Ship so heavily loaded that there is too little water under her bottom for good steering;

(*d*) Improper trim;

(*e*) Failure of engine revolution indicators;

(*f*) Failure of helm indicators.

2. It seems unnecessary for the Marine Superintendent to go into detail in regard to any of the above causes of poor maneuvering qualities of ships, as all of them are well understood, both by steamship agents and principals.

3. Both agents and principals are no doubt familiar with the Rules and Regulations for the Operation and Navigation of the Panama Canal and, consequently, know that where the condition of cargo, hull or machinery is such that the ship is liable to endanger or obstruct the Canal, transit may be refused until the defects have been remedied.

4. The majority of recent accidents have come from vessels being too heavily loaded. In this connection, it is not the policy of the Canal to discourage commerce by refusing transit to deep-draft vessels, yet it must be distinctly understood, both by the steamship agents and principals,

(*a*) That as long as vessels are loaded below the Plimsol mark the Canal authorities will not feel even moral responsibility for accidents outside the locks unless it can be clearly shown that Canal employees were negligent or careless, and,

(*b*) If The Panama Canal continues to allow transit to vessels too deeply loaded, the fullest cooperation is expected from agents and owners in providing all means that can be provided to increase the chances of safe transit.

5. The principal ways in which steamship companies can assist in increasing the margin of safety in transiting the Canal are:

(*a*) To provide temporary supplementary rudders to be used in transit. One or more companies provide them now, but the rudders are too small in area to secure the maximum practicable effect in steering;

(*b*) To impress on its agents and masters the importance of proper trim when arriving at the Canal for transit. The ordinary ship handles best in the confined waters of the Canal when trimmed with a drag of from six inches to three feet;

(*c*) To have aboard their ships engine revolution indicators and helm indicators that are reliable.

6. In addition, it should be brought to the attention of your principals that some of the ships now transiting the Canal handle so poorly that the use of a tug in the narrowest parts of the Canal is an absolute necessity in many cases, to break rank sheers toward the Canal banks. It will be the policy, therefore, to assist with a tug or tugs ships that show poor maneuvering qualities.

7. This memorandum involves no changes in Rules and Regulations for the Operation and Navigation of the Panama Canal; it merely points to ways in which the closer cooperation of steamship companies will reduce the number of Canal accidents and save the companies both time and money.

8. Please bring this memorandum to the immediate attention of your principals.

A. W. HINDS, *Marine Superintendent.*

Official Circulars.

Acting Executive Secretary, Acting Chief Clerk.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., April 30, 1923.

To all concerned.—Effective this date, and during the absence of Mr. C. A. McIlvaine on leave, Mr. John H. Smith will be Acting Executive Secretary. Mr. C. M. Lupfer will be Acting Chief Clerk.

JAY J. MORROW,
Governor.

Radio Receiving Sets.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 2, 1923.

To all concerned.—Authority for the control of the installation and operation of radio receiving sets on Military and Naval Reservations in the Canal Zone is hereby delegated to the local commanders of the respective services under regulations which they may issue with the approval of the Governor of The Panama Canal.

Memorandum circular of The Panama Canal, dated March 31, 1923, publishing regulations governing the installation and operation of radio receiving sets in the Canal Zone, is modified accordingly.

JAY J. MORROW,
Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 514.

PORT OF CRISTOBAL—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
May 1	San Blas	United Fruit Co.	Boston via Habana.
May 1	Calamares	United Fruit Co.	New York via Habana.
May 1	Heredia	United Fruit Co.	New Orleans via Habana.
May 2	Metapan	United Fruit Co.	New York via Kingston.
May 3	Atenas	United Fruit Co.	Bocas.
May 3	Panama	Panama Railroad Steamship Line.	New York via Haiti.
May 4	Statesman	Harrison Line	Liverpool via wayports.
May 4	Sciota [1]	U. S. Navy	High seas.
May 1	Statesman	Harrison Line	Liverpool via wayports.

[1] Tug.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
April 29	Ginyo Maru	Toyo Kisen Kaisha	Hongkong.
April 30	Regulus	Latin-American Line	Arica.
May 3	Phorus	Anglo-Saxon Petroleum Co.	San Francisco.

*DEPARTURES.

Date.	Vessel.	Line.	For—
April 30	Atenas	United Fruit Co.	Bocas.
April 30	Antiochia	Hamburg-American Line	Cartagena.
May 2	Calamares	United Fruit Co.	Port Limon.
May 3	Heredia	United Fruit Co.	New Orleans via wayports.
May 3	Metapan	United Fruit Co.	Colombian ports.
May 3	Atenas	United Fruit Co.	New Orleans.
May 3	San Blas	United Fruit Co.	Boston via wayports.
May 5	Statesman	Harrison Line	Demerara.

Date.	Vessel.	Line.	For—
April 30	Ginyo Maru	Toyo Kisen Kaisha	Valparaiso.
May 2	Regulus	Latin-American Line	San Francisco.
May 5	Phorus	Anglo-Saxon Petroleum Co.	San Pedro.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., May 16, 1923. No. 40.

Fire on Tanker "Mina Brea."

On May 16th the British tanker *Mina Brea*, operated by the Imperial Oil Company, was damaged slightly by fire in Cristobal harbor. The ship was on a voyage from Talara to Habana with a cargo of 6,000 tons of fuel oil, and at the time of the outbreak of the fire was alongside the pier at the Cristobal coaling plant. The fire was caused by a back draft from the furnace, which ignited the oil in the fire room bilges, and rising through the fidley hatch spread to the superstructure. Three Panama Canal tugs immediately towed the *Mina Brea* away from the pier and other shipping in the harbor, and the blaze was extinguished by firemen from the Cristobal station in 25 minutes of work and before it could spread to the inflammable cargo. It is estimated that the repairs required by the ship before it can proceed on its voyage can be completed in 5 days.

The "Samaria" on Around-the-World Voyage.

The *Samaria* of the Cunard Line is due to reach Balboa early in the morning of May 25 from San Francisco, on a voyage around the world with a cruise party under the management of Thos. Cook & Son. The vessel sailed eastward from New York in January, and is now on the last part of the voyage.

It is expected that the *Samaria* will pass through the Canal on the day of her arrival and lie at Cristobal over night, clearing in the morning of the 26th.

Furness Prince Line to Increase Pacific Coast-European Services.

Announcement has been made that the Furness Prince Line will greatly increase its activities in the Pacific Coast-European trade. Three motorships, with refrigerator holds, are being especially constructed for the Pacific Coast-European run, and starting in September it is proposed to increase the sailings from a monthly basis, of once every 3 weeks, or oftener if the trade warrants.

The first of the 3 new motorships, the *Dominion Miller*, transited the Canal on April 21, with 7,500 tons of general cargo laden at London and Antwerp for discharge at Pacific coast ports.

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 12, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Wm. G. Warden	5	15.30	6	6.23	6	14.18	6	15.20	American	Standard Oil Co	500.0	68.2	19.0	Baltimore	Los Angeles	Ballast		10,524	7,600
Laura C. Hall [1]	4–27	23.00	6	6.10	6	15.10	8	7.45	British	Pacific Metals Corporation	81.0	25.6	9.0	Cristobal	Buenaventura	General	20	132	72
Tustem	5	19.10	6	7.25	6	15.18	6	16.10	American	Atlantic Refining Co	425.0	57.2	24.0	Philadelphia	Port San Luis	Ballast		7,204	4,768
Agwimex	6	4.00	6	8.43	6	16.05	6	21.58	American	Atlantic Gulf & W. I. S. S. Co	480.5	66.0	24.0	Philadelphia	Los Angeles	Ballast		9,394	6,325
Florence Luckenbach	6	8.10	6	9.45	6	16.52	6	18.05	American	Luckenbach Line	401.8	52.0	22.8	New York	Los Angeles	General	5,984	6,002	4,621
Red-Bird	6	8.45	6	10.10	6	17.37	7	7.48	American	Redbird Steamship Corporation	324.0	46.2	22.7	Wilmington	Vancouver	Sulphur	4,528	3,965	2,573
Tairoa	6	10.25	6	11.25	6	18.42	6	20.09	British	Shaw, Savill & Albion Co	477.0	63.0	26.0	Liverpool	Auckland	General	4,538	11,192	8,149
Kina	5	22.25	6	12.20	6	19.34	7	17.45	Danish	Orient Steamship Co	385.0	53.3	24.0	Antwerp	Vancouver	General	5,837	6,080	4,618
Breda	5	18.02	6	12.50	6	20.16	6	22.00	Dutch	Royal Netherlands W. I. Mail	402.5	58.3	20.4	Hamburg	Corral	General	4,150	7,384	5,226
Clemons [2]	5		6		6	12.02			American	American Banana Co				Cristobal	Gatun Lake	Unknown		2	2
Barges Nos. 4 and 5			6		6	12.02			American	American Banana Co				Cristobal	Gatun Lake	Ballast		17	17
Barge No. 6			6		6	12.02			American	American Banana Co				Cristobal	Gatun Lake	Ballast		8	8
Essequibo	6	10.55	7	6.12	7	13.49	7	15.20	British	Pacific Steam Navigation Co	450.0	57.0	24.2	New York	Valparaiso	General	2,647	9,099	6,117
Odenwald	5	6.14	7	7.38	7	16.12	8	18.10	German	Hamburg-American Line	399.6	54.3	15.0	Hamburg	Guayaquil	General	1,256	6,808	4,979
Jacob Luckenbach	7	5.50	7	7.57	7	17.01	7	18.20	American	Luckenbach Line	414.5	53.7	27.0	Mobile	Seattle	General	7,715	7,315	5,270
American	7	0.35	7	9.25	7	17.46	7	19.10	American	American-Hawaiian Line	406.6	51.1	26.9	Philadelphia	San Francisco	General	6,640	5,918	4,113
Grant [3]	7	6.10	7	11.20	7	18.35	10	16.40	American	U. S. Army	490.0	55.0	25.1	New York	San Francisco	General	2,200		
Ucayali	4–28	21.46	7	11.33	7	19.36	7	21.00	Peruvian	Peruvian Line	374.7	46.3	18.11	Cristobal	Guayaquil	General	646	4,466	2,405
Lima [4]	7	8.10	7	12.24	7	20.16	8	7.45	Swedish	Johnson Line	364.0	51.0	23.6	Stockholm	Seattle	General	4,592	5,304	3,900
Muskogee	7	13.02	7	13.15	7	21.09	8	4.00	American	Standard Oil Co	450.9	57.9	19.0	Ponce	Los Angeles	Ballast		7,574	5,193
M. F. Elliott	7	13.15	7	13.25	7	21.56	7	23.00	American	Standard Oil Co	425.0	57.2	18.4	New York	Los Angeles	Ballast		7,481	4,946
Manavi	4–30	16.43	8	6.16	8	13.18	8	17.15	British	Pacific Steam Navigation Co	216.0	35.0	12.3	Cristobal	Guayaquil	General	377	1,357	884
Steelore	8	5.40	8	6.50	8	15.59	8	22.35	American	Ore Steamship Co	550.3	72.2	22.0	Baltimore	Cruz Grande	Ballast		15,551	4,297
Agwistone	8	7.05	8	7.45	8	16.43	8	23.58	American	Atlantic Gulf & W. I. S. S. Co	499.9	68.1	21.0	New York	Los Angeles	Ballast		10,600	7,833
Chinampa	8	6.10	8	10.20	8	17.50	8	19.22	American	Standard Oil Co	426.8	54.4	21.11	Fall River	Los Angeles	Ballast		7,171	5,172
Virginia Dollar	8	9.57	8	13.15	8	21.00	8	22.12	British	Dollar Line	505.0	58.3	32.2	Glasgow	Manila	General	12,500	9,829	7,125
Steel Seafarer	8	22.30	9	6.25	9	13.34	9	17.17	American	U. S. Steel Products Co	424.2	56.2	27.0	Baltimore	Honolulu	(6)	8,345	7,611	5,454
Australind	9	1.00	9	6.35	9	14.54	11	1.40	British	Australind Steamship Co	384.0	50.1	24.6	New York	Bluff	General	6,557	5,667	4,143
Sweden Maru	9	6.12	9	7.55	9	16.40	9	21.15	Japanese	Kawasaki Kisen Kaisha	385.0	51.0	25.6	Philadelphia	Yokohama	General	6,136	5,926	4,398
Devon	9	6.20	9	13.50	9	21.10	10	.02	British	Federal Steam Navigation Co	473.3	59.9	30.8	London	Auckland	General	8,234	9,944	7,000
Palena	6	20.30	10	6.15	10	14.02	10	15.20	Chilean	Chilean Line	350.0	42.1	23.3	Cristobal	Valparaiso	General	408	3,666	2,577
Patuxent [5]			10	9.55	10	17.49	11	.30	American	U. S. Navy	156.0	29.0		Cristobal	Balboa	(7)			
Santa Teresa	9	13.50	10	6.18	10	13.15	10	14.30	American	Grace Line	360.2	51.6	23.5	New York	Talcahuano	General	2,390	5,726	4,086
Canadian Miller	10	0.52	10	7.20	10	15.06	10	16.20	British	Canadian Miller Shipping Co	400.3	52.0	22.6	Halifax	Adelaide	General	2,998	5,892	4,186

[1] Motor schooner. [2] Launch. [3] Transport. [4] Motor ship. [5] Tug. [6] Steel, sulphate of ammonia, and general. [7] Towing barge No. 11.

John Worthington	10	2.30	10	7.58	10	15.52	10	16.48	American	Standard Oil Co	464.0	60.2	19.0	New York	Los Angeles	Ballast		8,491	6,096
Yorba Linda	9	14.10	10	8.45	10	16.43	10	17.55	American	General Petroleum Co	435.0	56.2	18.11	Cristobal	Los Angeles	Ballast		7,424	5,077
Durban Maru	10	5.55	10	9.15	10	17.47	10	18.54	Japanese	Nippon Yusen Kaisha	420.0	56.0	28.9	New York	Takao	General	8,772	7,445	5,345
Minnesotan	10	10.15	10	10.25	10	18.34	10	22.41	American	American-Hawaiian Line	407.0	53.7	23.0	Boston	San Francisco	General	5,503	7,150	4,913
Hatkbola	10	9.00	10	10.52	10	19.25	11	7.01	British	British India Steam Nav. Co	385.0	51.2	22.4	New York	Adelaide	General, auto	6,056	5,949	4,407
Arizonan	10	10.25	10	11.15	10	22.40	11	4.12	American	American-Hawaiian Line	470.1	57.2	31.8	Avonmouth	Portland	(8)	12,875	9,158	6,970
Eudunda	10	12.45	10	13.40	11	0.05	11	1.20	British	Commonwealth Government	331.0	48.0	18.7	New York	Adelaide	General	5,000	4,400	2,966
Agwisea	10	13.40	10	13.45	10	23.12	11	11.54	American	Agwi Steamship Lines	468.3	62.7	17.6	New York	Los Angeles	Ballast		9,802	6,961
Ampullaria	10	16.30	11	6.25	11	13.20	11	17.07	British	Anglo-Saxon Petroleum Co	423.0	53.3	16.0	Barrow	Los Angeles	Ballast		6,242	4,320
Rapot	10	18.56	11	7.24	11	14.31	11	18.15	German	Roland Line	393.0	54.3	21.0	Antwerp	Buenaventura	General	2,769	6,583	4,660
Santa Paula	10	21.40	11	7.55	11	16.02	11	20.05	American	Grace Line	404.6	53.0	26.6	Baltimore	Los Angeles	General	7,641	6,756	4,775
Robert E. Hopkins	11	6.40	11	8.45	11	16.50	11	17.50	American	Tidewater Oil Co	424.4	58.2	23.0	Fall River	Los Angeles	Ballast		7,333	5,244
Plum Branch	11	6.20	11	10.00	11	17.14	11	18.25	British	Nautilus Steamship Co	398.5	53.8	19.4	Glasgow	Valparaiso	General	2,699	5,761	3,881
S. C. T. Dodd	11	6.25	11	10.30	11	17.53	11	19.14	American	Standard Oil Co	425.0	57.0	20.4	Port Arthur	San Francisco	Ballast		7,481	4,975
Agwihavre	11	11.50	11	12.40	11	19.19	12	.....	American	Atlantic Gulf & W. I. S. S. Co	480.5	66.0	20.0	New York	Los Angeles	Ballast		9,394	6,305
Naimes	11	13.15	11	13.50	11	20.06	12	.45	German	Roland Line	330.0	45.11	15.0	Hamburg	Puntarenas	General	780	3,529	2,532
Varg	11	11.10	12	6.24	12	13.18	12	14.25	Norwegian	P. Johannessen	231.7	35.1	13.0	New Orleans	Guayaquil	Ballast		1,496	1,040
Dorothy Luckenbach	11	21.40	12	7.30	12	15.50	12	17.09	American	Luckenbach Line	448.9	60.2	30.7	Philadelphia	Los Angeles	General, steel	9,580	9,294	6,861
Apple Branch	11	22.30	12	8.30	12	16.55	12	17.50	British	Nautilus Steamship Co	370.0	52.7	18.0	London	Corral	General	2,000	5,112	3,511
Blue Triangle	12	9.00	12	9.10	12	17.35	12	21.25	American	Nawseo Line (S. B.)	390.0	54.2	22.0	Philadelphia	Los Angeles	General	5,351	6,209	4,317
Josiah Macy	12	11.15	12	11.50	12	19.00	12	21.20	American	Standard Oil Co	419.0	57.2	17.0	New York	Los Angeles	Ballast		7,197	5,082

[8] Pig iron, coke, steel and general.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Hans Hemsoth	4	19.15	6	7.06	7	12.10	8	6.20	German	Wilhelm Hemsoth	401.0	54.0	24.6	Vancouver	New York	Lumber	(9)	6,636	4,888
Oregon Maru	5	13.45	6	7.56	6	16.07	6	16.07	Japanese	Yonekichi Mari	385.0	51.0	27.6	Tocopilla	New York	Copper ore	8,240	6,250	4,700
Pear Branch	5	15.30	6	9.06	6	17.30	6	19.30	British	Nautilus Steamship Co	398.6	53.8	22.1	Iquique	Dunkirk	Nitrate, general	6,000	5,760	3,866
Buenos Aires	5	17.55	6	8.40	6	17.08	7	14.19	Swedish	Axel Johnson	440.0	56.0	26.6	Vancouver	Scandinavia	General	7,300	7,591	5,661
S. V. Harkness	5	19.00	6	9.50	6	17.35	6	17.35	American	Standard Oil Co	419.0	57 2	26.6	San Pedro	New York	Crude oil	8,571	7,220	4,913
J. W. Van Dyke	5	21.15	6	10.36	6	18.09	6	18.09	American	Atlantic Refining Co	435.0	56.0	28.0	Los Angeles	Philadelphia	Crude oil	10,000	7,460	5,215
Camden	6	8.20	6	11.48	6	19.10	6	21.05	American	United Fruit Co	419.5	56.5	26.5	Los Angeles	Tampico	Crude oil	8,951	6,977	4,959
Frederick R. Kellog	6	9.20	6	12.01	6	20.55	6	20.55	American	Huasteca Petroleum Co	425.8	57.0	27.0	San Pedro	New Orleans	Crude oil	10,042	7,178	4,963
Palena	5	19.30	6	13.26	6	20.30	10	6.15	Chilean	Chilean Line	107.6	12.8	20.0	Talcahuano	Cristobal	General	163	3,666	2,577
Jason	6	13.00	6	14.19	6	22.09	8	14.50	Dutch	Royal Netherlands W. I. Mail	359.6	48.6	21.6	Valparaiso	Amsterdam	General	4,240	4,321	2,120
Curaeo	6	16.30	7	7.00	7	16.30	7	16.30	Panaman	Grace Line	403.1	53.4	29.0	Punta Arenas	New York	General	9,264	6,804	4,899
Republic	6	17.50	7	7.52	7	17.35	7	18.25	American	Chilean Line	345.0	49.0	22.8	Antofagasta	New York	Copper, nitrate	6,000	4,393	3,006
Shreveport	6	21.50	7	9.07	7	17.45	7	17.45	American	Walker & Daly	435.0	56.0	27.0	San Pedro	New York	Crude oil	10,130	7,411	5,103
D. G. Scofield	7	1.00	7	9.59	7	18.00	7	18.00	American	Standard Oil Co	439.5	58.0	27.9	San Francisco	Philadelphia	Gasoline	9,348	8,698	6,040
Peshawur	7	1.30	7	10.08	7	19.25	8	4.20	British	P. & O. S. N. Co	449.5	58.0	24.0	Wellington	Glasgow	General	4,100	8,174	5,332
W. C. Teagle	7	11.00	7	11.52	7	20.27	7	20.27	American	Standard Oil Co	499.1	68.0	29.5	San Pedro	New York	Crude oil	14,904	10,971	7,908
Steel Engineer	6	19.45	7	12.16	7	21.18	7	21.18	American	Isthmian Lines	424.2	56.0	16.0	Honolulu	Baltimore	Ballast		7,611	5,450
Paparoa	6	23.50	7	14.00	7	22.58	8	4.40	British	New Zealand Steamship Co	430.0	54.2	24.6	Auckland	Avonmouth	General, frozen	4,048	8,209	6,121
Urubamba	7	4.15	8	6.59	8	14.03	.....	.....	Peruvian	Peruvian Line	381.0	46.0	18.3	Callao	Cristobal	General	1,109	4,803	2,951
A. C. Bedford	7	17.30	8	7.40	8	17.40	8	17.40	American	Standard Oil Co	500.0	68.0	30.0	San Pedro	New York	Crude oil	14,735	10,896	7,615

[9] 480,000 board feet.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Chuky	8	1.00	8	8.30	8	16.45	8	18.33	British	Chile Steamship Co	440.0	56.0	14.0	Tocopilla	Tampico	Ballast		7,690	4,723
Bjornstjerne Bjornsen	8	5.30	8	8.50	8	18.53	8	19.50	Norwegian	Olaf Ovirg	410.0	54.0	26.0	Tocopilla	Cristobal[10]	Nitrates	8,800	6,304	4,752
Horace Luckenbach	8	6.58	8	9.45	8	18.00	8	18.29	American	Luckenbach Line	445.0	58.0	23.0	Seattle	New York	General	4,795	8,626	6,290
Montpelier	8	10.00	8	11.25	8	19.39	9	0.03	American	United American Lines	460.0	57.9	26.0	Seattle	New York	Lumber, general	8,900	6,368	4,161
Iowan	8	2.00	8	11.52	8	20.07	8	20.07	American	American-Hawaiian Line	407.7	53.7	22.0	Seattle	Boston	General	5,162	7,091	5,002
Lompoc	8	11.15	8	12.55	8	21.39	9	11.15	British	Union Oil Co	434.0	55.8	27.6	San Pedro	Tampico	Crude oil	9,600	7,496	5,311
W. W. Mills	8	11.50	8	13.33	8	23.06	9	6.15	American	Pure Oil Steamship Co	424.4	58.2	26.6	San Pedro	Philadelphia	Crude oil	([11])	7,333	5,119
Santa Malta	8	13.20	8	15.08	8	23.37	8	23.37	American	Pacific Mail Steamship Co	404.5	53.7	29.6	Seattle	New York	Lumber, general	7,600	6,766	4,809
Yorba Linda	8	13.00	9	7.10	9	14.10	10	8.45	American	General Petroleum Co	435.0	56.2	29.0	San Pedro	Cristobal[10]	Fuel oil	4,466	7,424	5,077
Benledi	8	16.30	9	7.46	9	15.35	9	19.30	British	Pen Line Steamship Co	379.0	46.0	22.0	Suva, Fiji Is.	Colon[10]	Copra	3,900	4,179	3,067
Solano	8	10.35	9	9.07	9	17.40	9	17.40	American	Pacific Mail Steamship Co	419.5	56.5	26.6	San Pedro	Fall River	Crude oil	10,000	7,060	5,025
E. T. Bedford	8	19.00	9	9.46	9	19.00	9	19.00	American	Standard Oil Co	499.2	68.1	30.6	San Pedro	Charleston	Crude oil	15,865	11,009	7,967
Toba Maru	10	5.40	10	8.16	10	17.50	11	6.15	Japanese	Nippon Yusen Kaisha	445.0	52.0	20.0	Hongkong	New York	General	6,770	8,058	5,743
T. J. Williams	10	10.00	10	12.47	10	20.42	11	0.45	American	Standard Oil Co	465.0	60.2	28.0	San Pedro	New York	Crude oil	10,800	8,585	6,087
San Jeronima	10	12.00	10	13.54	11	14.25	11	15.20	British	Eagle Oil Transportation Co	525.5	66.6	29.0	San Pedro	Tuxpan	Crude oil	15,260		
Calgarolite	10	16.15	11	7.08	11	15.45	11	17.02	British	Imperial Oil Co., Ltd	463.0	60.2	28.0	Talara	Halifax	Crude oil	11,621	8,491	6,056
Patrick Henry	11	4.15	11	8.15	11	16.55	11	16.55	American	Tampa Interocean S. S. Co	439.6	60.2	27.6	Manila	New Orleans	General	10,010	8,987	6,612
R-23[12]			11	9.05	11	16.48			American	U. S. Navy	175.0	16.0		Balboa	Cristobal				
Chas. R. McCormack	11	6.00	11	9.38	11	17.10	11	17.10	American	Chas. McCormack S. S. Co	491.0	53.0	24.3	Everett	New York	Lumber[13]	5,279	7,082	5,167
Huftero	11	9.30	11	10.11	11	17.59	11	18.30	Norwegian	Henrik Ostervoild	380.4	52.3	18.0	Manila	Boston	Hemp	3,500	5,517	3,937
Montgomery City	11	11.15	11	12.10	11	19.47	11	19.47	American	Isthmian Lines	424.2	56.2	26.0	Vancouver	Philadelphia	General	7,585	7,611	5,450
R-21[12]			11	12.28	11	19.50			American	U. S. Navy	175.0	16.0		Balboa	Cristobal				
Oregonian	12	2.00	12	7.48	12	15.35	12	16.45	American	American-Hawaiian Line	405.0	51.1	25.6	Portland	New York	Lumber, copper	6,312	5,959	4,203
J. N. Pew	12	6.00	12	8.09	12	17.00	12	17.00	American	Sun Oil Co	480.5	66.0	28.6	San Pedro	Chester, Pa.	Crude oil	13,290	9,491	6,612
Corinto	11	21.16	12	10.31	12	18.10			American	Pacific Mail Steamship Co	261.0	40.0	17.0	San Francisco	Cristobal	General	17	2,403	1,560
Mincola	12	6.00	12	13.05	12	19.45	13	9.42	American	Grace Line	298.6	40.0	15.6	Salaverry	New York	General	1,177	2,835	1,805
Mojave	12	11.45	12	13.48	12	21.15	12	21.15	American	General Petroleum Co	435.0	56.2	26.10	San Pedro	Dunkerque	Gasoline	8,611	7,434	5,066
Haarlem	12	13.50	12	14.56	12	22.42			Dutch	Royal Netherlands W. I. Mail	374.1	50.0	23.0	Valparaiso	Hamburg	General	5,155	4,759	3,660

[10] For orders. [11] 74,779 barrels [12] Submarine. [13] 5,279 tons lumber and deck load of 564,324 feet of lumber.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 528, column 2.)

Report of Cargo Discharged and Laded by Vessels entering and Clearing from Port of Cristobal for Week Ending May 12, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Calamares	United Fruit Co	May 6	May 6	15	178
Laura C. Hall	Pacific Metals Corporation		May 6		41
Buenos Aires	Johnson Line	May 6	May 6	(1)	274
Breda	Royal Netherlands W. I. Mail		May 6		7
Essequibo	Pacific Steam Navigation Co	May 6	May 7	262	320
Zacapa	United Fruit Co	May 6	May 7	282	1,134½
Oranje Nassau	Royal Netherlands W. I. Mail	May 6	May 8	101	37
La Navarre	French Line	May 6	May 8	58	481
Jason	Royal Netherlands W. I. Mail	May 6	May 8	589	356
Manavi	Pacific Steam Navigation Co		May 8		379
Palena	Chilean Line	May 6	May 10	199	410
Lima	Johnson Line	May 7	May 7	77	(2)
Urubamba	Peruvian Line	May 8		1,228	
Ucayali	Peruvian Line		May 7		646
Pastores	United Fruit Co	May 8	May 9	166	363½
Panama	Panama Railroad Steamship Line		May 9		3,176
Santa Teresa	Grace Line	May 9	May 10	169	(2)
Parismina	United Fruit Co	May 9	May 10	612	(2)
Yorba Linda	General Petroleum Co	May 9	May 10	4,466	(2)
Sixaola	United Fruit Co	May 9	May 10	294	125
Metapan	United Fruit Co	May 9	May 10	5	42
San Gil	United Fruit Co	May 9	May 11	30	167
Zacapa	United Fruit Co	May 10	May 10	(1)	6
Santa Paula	Grace Line	May 10	May 11	1	(2)
Oranje Nassau	Royal Netherlands W. I. Mail	May 11	May 12	(3)	630
Reina M. Cristiana	Spanish Line	May 11		1	
Coronado	Elders & Fyffes, Ltd	May 12	May 12	25½	(2)
Mincola	Grace Line	May 12	May 12	234	46
Corinto	Pacific Mail Steamship Line	May 12		1,886	

[1] No cargo discharged. [2] No cargo laded. [3] 11 packages.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Three Weeks Ending May 13, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
American Star	United American Lines	April 14	April 24		450
Gold Shell	Asiatic Petroleum Co	April 22	April 23	7,256	
General O. H. Ernst	Panama Railroad Steamship Line	April 23	April 23		45
Salvador	Pacific Steam Navigation Co	April 23	April 23	4	
San Juan	Pacific Mail Steamship Co	April 24	April 25	53	
San Lamberto	Arrow Oil Co	April 26	April 27	8,183	
Almagro	Pacific Steam Navigation Co	April 26	April 26		38
City of Para	Pacific Mail Steamship Co	April 27	April 27	39	
Gen. G. W. Goethals	Panama Railroad Steamship Line	April 27	April 27		201
Laura C. Hall	Pacific Metals Transportation Co	April 27	April 27	11	
Dryden	Tampa Ocean Steamship Co	April 27		118	
Santa Maria	Union Oil Co. of California	April 27		10,436	
Colombia	Pacific Mail Steamship Co	April 28		142	
Ginyo Maru	Toyo Kisen Kaisha	April 29	April 30	431	
Manavi	Pacific Steam Navigation Co	April 30	April 30	1	
Ecuador	Pacific Mail Steamship Co	May 2	May 2	1	4
Regulus	Latin-American Line	May 1	May 2		35
Capella	U. S. Navy	May 3	May 3	19	12
Acajutla	Pacific Steam Navigation Co	May 5	May 5	6	
Salvador	Pacific Steam Navigation Co	May 5	May 5		13
Dryden	Tampa Ocean Steamship Co	April 27	May 5		243
Buenos Aires	Johnson Line	May 5	May 6		39
Laura C. Hall	Pacific Metals Transportation Co	May 6	May 6		56
Rakuyo Maru	Toyo Kisen Kaisha	May 6	May 6	5	40
Kina	East Asiatic Co	May 7	May 7		125
Manavi	Pacific Steam Navigation Co	May 8	May 8		21
Yorba Linda	General Petroleum Co	May 8	May 9	4,466	
Santa Teresa	Grace Line	May 10	May 10	13	
Anomia	Anglo-Saxon Petroleum Co	May 10	May 12	6,796	
Naimes	Roland Line	May 11	May 11	14	
Corinto	Pacific Mail Steamship Co	May 12	May 12	2	
Mincola	Grace Line	May 12	May 12	1	

Origin and Destination of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, April, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.							Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Asia.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America.																									
United States:																									
North Atlantic ports	4,778	824	725	6,016	11,398	23,741	217,809	35	400	.....	351	.....	218,595	37,112	25,746	246	25,435	88,539	6,913	16,965	19,152	43,030	3,500	377,405	57.8
South Atlantic ports	.....	.....	.....	.....	.....	.....	2,731	.....	.....	.....	.....	10,060	12,791	2,903	2,058	.....	568	5,529	.....	.....	.....	.....	.....	18,320	2.8
Gulf ports	1,240	.....	.....	.....	990	2,230	22,089	.....	.....	.....	.....	.....	22,089	18,480	7,645	111	13,577	39,813	1,000	798	9,075	10,873	36	75,041	11.5
Totals, United States	6,018	824	725	6,016	12,388	25,971	242,629	35	400	.....	351	10,060	253,475	58,495	35,449	357	39,580	133,881	7,913	17,763	28,227	53,903	3,536	470,766	72.1
East coast, Mexico	34,033	.....	.....	.....	.....	34,033	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34,033	5.2
Cristobal, C. Z.[2]	214	267	956	903	1,680	4,020	1,901	258	.....	.....	3,124	.....	5,283	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,303	1.4
West Indies	.....	.....	.....	.....	18	18	10	.....	7,564	.....	.....	.....	7,574	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,592	1.2
East coast, Canada	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	543	380	3,286	4,209	.....	4,209	0.6
Totals, North America	40,265	1,091	1,681	6,919	14,086	64,042	244,540	293	7,964	.....	3,475	10,060	266,332	58,495	35,449	357	39,580	133,881	8,456	18,143	31,513	58,112	3,536	525,903	80.5
Europe.																									
Belgium	70	.....	327	37	1,404	1,838	5,658	.....	50	2,691	1,300	.....	9,699	.....	.....	.....	.....	.....	2,153	.....	.....	2,153	.....	13,690	2.1
British Isles	2,973	.....	.....	1,867	7,434	12,274	14,225	.....	1,623	5,748	.....	.....	21,596	.....	.....	.....	.....	.....	20,177	2,000	10,105	32,282	.....	66,152	10.1
France	.....	.....	.....	.....	267	267	582	.....	.....	12	.....	.....	594	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	861	0.1
Germany	296	.....	798	95	4,780	5,969	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,969	0.9
Holland	45	.....	.....	16	225	286	708	.....	105	.....	.....	.....	813	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,099	0.2
Italy	.....	.....	2	.....	7	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....
Norway-Sweden	.....	.....	.....	.....	.....	.....	346	.....	.....	.....	.....	.....	346	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	346	0.1
Europe[1]	2,770	100	442	1,097	9,262	13,671	4,264	.....	89	7,330	.....	.....	11,683	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25,354	3.9
Totals, Europe	6,154	100	1,569	3,112	23,379	34,314	25,783	.....	1,867	15,781	1,300	.....	44,731	.....	.....	.....	.....	.....	22,330	2,000	10,105	34,435	.....	113,480	17.4
East coast, South America	.....	21	.....	506	.....	527	12,794	.....	18	.....	.....	.....	12,812	647	.....	.....	.....	647	.....	.....	.....	.....	.....	13,986	2.1
Grand totals	46,419	1,212	3,250	10,537	37,465	98,883	283,117	293	9,849	15,781	4,775	10,060	323,875	59,142	35,449	357	39,580	134,528	30,786	20,143	41,618	92,547	3,536	653,369	100.0

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

Per cent of total cargo:																										
April, 1923	7.1	0.2	0.5	1.6	5.7	15.1	43.3	0.1	1.5	2.4	0.7	1.6	49.6	9.1	5.4	0.1	6.0	20.6	4.7	3.1	6.4	14.2	0.4	100.0	....	
April, 1922	10.0	0.5	0.1	1.9	5.0	17.5	32.9	....	1.8	....	0.4	1.9	37.0	16.2	10.7	....	5.6	32.5	4.7	0.7	5.0	10.4	2.6	100.0	....	
April, 1921	15.6	0.3	0.2	3.6	4.7	24.4	26.0	....	1.4	....	0.4	2.0	31.0	7.9	2.3	....	12.0	22.2	8.9	6.2	7.3	22.4	....	100.0	....	

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, April, 1923.

(Figures represent tons of 2,240 pounds.)

From—	North America.									Europe.													
	United States.																						
	North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.	East coast of Canada.	West Indies.	East coast of Mexico.	Cristobal, C. Z.[2]	Total, North America.	Belgium.	British Isles.	France.	Germany.	Holland.	Norway and Sweden.	Spain and Portugal.	Europe.[1]	Total, Europe.	East coast of South America.	Africa.	Grand totals.	Per cent of total cargo.
South America:																						
Chile	94,391	90,573	27,605	212,569	....	272	....	228	213,069	493	11,430	7,617	1,460	2,006	....	....	59,590	82,596	....	7,226	302,891	19.75
Colombia	860	....	....	860	....	....	....	1,789	2,649	....	....	....	....	....	....	....	....	....	40	....	2,689	0.18
Ecuador	2,100	....	....	2,100	....	....	....	1,466	3,566	....	135	....	726	40	....	....	682	1,583	....	....	5,149	0.34
Peru	495	....	....	495	....	....	....	3,609	4,104	1,589	7,039	15	13,068	3,970	8,065	....	41	33,787	429	....	38,320	2.50
West coast, South America[1]	3,768	....	....	3,768	....	....	....	715	4,483	....	57	....	....	....	....	....	1,382	1,439	....	....	5,922	0.38
Totals, South America	101,614	90,573	27,605	219,792	....	272	....	7,807	227,871	2,082	18,661	7,632	15,254	6,016	8,065	....	61,695	119,405	469	7,226	354,971	23.15
North America:																						
West coast, United States	782,547	34,852	65,786	883,185	24,655	10,372	63,137	138	981,487	....	49,187	....	....	....	....	20	964	50,171	4,486	....	1,036,144	67.56
West coast, Canada	16,951	....	....	16,951	....	....	....	....	16,951	....	7,999	400	....	....	....	....	9,900	18,299	....	....	35,250	2.30
West coast, Mexico	....	....	....	....	....	....	....	....	....	....	....	41	....	....	....	3,086	....	3,127	....	....	3,127	0.20
West coast, Central America	4,105	....	....	4,105	....	170	....	9,861	14,136	....	876	170	530	....	....	....	1,470	3,046	....	....	17,182	1.12
West coast, North America[1]	9,510	....	....	9,510	....	....	....	....	9,510	....	1,415	....	....	....	....	....	961	2,376	....	....	11,886	0.77
Totals, North America	813,113	34,852	65,786	913,751	24,655	10,542	63,137	9,999	1,022,084	....	59,477	611	530	....	....	3,106	13,295	77,019	4,486	....	1,103,589	71.95
Asia:																						
China	4,585	....	124	4,709	....	....	....	....	4,709	....	....	....	....	....	....	....	....	....	....	....	4,709	0.30
Japan	3,383	....	....	3,383	....	....	....	....	3,383	....	....	....	....	....	....	....	....	....	....	....	3,383	0.22
Philippines	9,138	....	1,539	10,677	....	....	....	....	10,677	....	....	....	....	....	....	....	....	....	....	....	10,677	0.70
Far East[1]	8,972	....	1,950	10,922	....	1,953	....	....	12,875	....	....	....	....	....	....	....	....	....	....	....	12,875	0.84
Totals, Asia	26,078	....	3,613	29,691	....	1,953	....	....	31,644	....	....	....	....	....	....	....	....	....	....	....	31,644	2.06
Australasia:																						
Australia	3,949	....	....	3,949	....	....	....	....	3,949	2,056	....	....	....	....	....	....	....	2,056	....	....	6,005	0.39
New Zealand	4,124	....	....	4,124	4,378	....	....	....	8,502	....	15,766	....	....	....	....	....	....	15,766	....	....	24,268	1.58

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

(Continued on page 528, column 1.)

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, April, 1923.—Continued from page 527.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	South Atlantic ports.	Gulf ports.	Total, United States.	East coast of Canada.	West Indies.	East coast of Mexico.	Cristobal, C. Z.[2]	Total, North America.	Europe. Belgium.	British Isles.	France.	Germany.	Holland.	Norway and Sweden.	Spain and Portugal.	Europe.[1]	Total, Europe.	East coast of South America.	Africa.	Grand totals.	Per cent of total cargo.
Australasia—Continued.																						
Australasia[1]	925	.....	.....	925	.....	.....	.....	.....	925	546	6,352	8	.....	.....	.....	.....	5,468	12,374	.....	.....	13,299	0.87
Totals, Australasia	8,998	.....	.....	8,998	4,378	.....	.....	.....	13,376	2,602	22,118	8	.....	.....	.....	.....	5,468	30,196	.....	.....	43,572	2.84
Grand totals	949,803	125,425	97,004	1,172,232	29,033	12,767	63,137	17,806	1,294,975	4,684	100,256	8,251	15,781	6,016	8,065	3,106	80,458	226,620	4,955	7,226	1,533,776	100.00
Percentage of total cargo:																						
April, 1923	61.93	8.18	6.32	76.43	1.89	0.83	4.12	1.16	84.43	0.30	6.55	0.54	1.03	0.39	0.53	0.20	5.25	14.78	0.32	0.47	100.00	.....
April, 1922	39.7	11.7	1.0	52.4	.....	1.0	0.3	3.8	57.6	1.5	28.1	0.5	2.4	0.9	0.5	.....	6.8	41.0	0.5	0.9	.....	.....
April, 1921	30.6	12.1	0.4	43.1	.....	.....	0.2	2.2	45.5	0.2	31.3	6.7	3.0	4.5	.....	.....	5.1	54.5	0.2	.....	.....	.....

[1] Indicates general cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 524.

PORT OF CRISTOBAL.

*Arrivals. Date.	Vessel.	Line.	From—	*Departures. Date.	Vessel.	Line.	For—
May 6	Zacapa	United Fruit Co	New Orleans via Habana.	May 6	Calamares	United Fruit Co	New York via Habana.
May 6	Calamares	United Fruit Co	Port Limon.	May 7	Zacapa	United Fruit Co	Bocas.
May 6	La Navarre	French Line	St. Nazaire via wayports.	May 8	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
May 6	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.	May 9	La Navarre	French Line	St. Nazaire via wayports.
May 8	Pastores	United Fruit Co	New York via Habana.	May 9	Pastores	United Fruit Co	Port Limon.
May 9	Parismina	United Fruit Co	New Orleans via Habana.	May 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
May 9	San Gil	United Fruit Co	Boston via Habana.	May 10	Sixaola	United Fruit Co	Colombian ports.
May 9	Sixaola	United Fruit Co	New York via Kingston.	May 10	Metapan	United Fruit Co	New York via Kingston.
May 9	Metapan	United Fruit Co	Colombian ports.	May 10	Parismina	United Fruit Co	New Orleans via wayports.
May 10	Zacapa	United Fruit Co	Bocas.	May 10	Zacapa	United Fruit Co	New Orleans.
May 11	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.	May 11	San Gil	United Fruit Co	Boston via Limon.
May 11	Reina Maria Cristina	Spanish Line	Barcelona via wayports.	May 12	Coronado	Elders & Fyffes Line	Kingston.
May 12	Coronado	Elders & Fyffes Line	Port Limon.	May 12	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.

PORT OF BALBOA.

May 6	Rakuyo Maru	Toyo Kisen Kaisha	Valparaiso.	May 6	Rakuyo Maru	Toyo Kisen Kaisha	Hongkong.
May 10	Anomia	Anglo-Saxon Petroleum Co	San Pedro.	May 12	Anomia	Anglo-Saxon Petroleum Co	San Pedro.

* Other than ships passing through the Canal.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., May 23, 1923. No. 41.

Vessels and Tolls, May 1 to 15, Inclusive.

The number of commercial ships passing through the Panama Canal from May 1 to 15, inclusive, was 192. This was an average of 12.8 ships per day, which is a decrease from the high record of 13.47 ships per day established during the month of April.

The tolls collected during the 15-day period amounted to $889,803.31 on the commercial ships and $33.90 on 4 launches, a total of $889,837.21. Tolls in April on commercial ships aggregated $1,878,938.15, a daily average of $62,631.27. The daily average for the first 15 days in May was $59,320.22.

Large Cargoes Through Canal in April.

Sixty vessels, carrying 10,000 tons or more of cargo each, transited the Canal during the month of April. Fifty-eight were bound from the Pacific to the Atlantic, and 2 from the Atlantic to the Pacific. Of the total, 53 were tankships, of which all but 2 carried cargoes of crude or refined petroleum from the California oil fields.

The statement below shows the aggregate net tonnage, Panama Canal measurement, the tolls paid, and the tons of cargo carried by these 60 vessels, segregated by the several commodities which made up their cargo:

Character of cargo.	No. of ships.	Aggregate net tonnage.	Tolls.	Aggregate cargo.
Mineral oils	53	361,935	$380,697.65	689,393
Iron ore	3	19,696	22,332.80	57,000
Nitrate	2	9,463	10,265.00	20,480
Coal	1	7,689	8,700.00	10,060
Lumber and general	1	6,723	6,610.00	10,090
Totals	60	405,506	428,605.45	787,023
Average per vessel	.....	6,758	7,143.59	13,117

The ratio of cargo tonnage to net tonnage of each of the several commodities, and the average rate of tolls per cargo ton is shown below:

	Ratio of cargo tonnage to net tonnage.	Average Canal tolls per cargo ton.
Mineral oils	1.9	$0.55
Iron ore	2.9	0.39
Nitrate	2.2	0.50
Coal	1.3	0.86
Lumber and general	1.5	0.65

The 58 vessels transiting the Canal from the Pacific to the Atlantic, carrying cargoes of 10,000 tons or greater, made up 29 per cent of total Atlantic-bound transits, comprised 40 per cent of the total tonnage moving to the Atlantic, and carried 50 per cent of the total Pacific-to-Atlantic cargo passing through the Canal during the month.

CANAL WORK IN APRIL.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of April, 1923:

BALBOA HEIGHTS, C. Z., May 18, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering the operations of the Panama Canal during the month of April, 1923:

CARGO, NET TONNAGE AND TOLLS RECORDS.

The total cargo carried through the Panama Canal during April, was 2,187,145 tons. This is a new high record, and the first time that the cargo in any one month has exceeded 2,000,000 tons. The previous record cargo, that of March, 1923, was 1,940,928 tons of 2,240 pounds.

The net tonnage of the ships, Panama Canal measurement, also exceeded 2,000,000 tons for the first time, establishing the new monthly record of 2,007,690 net tons. The previous record was 1,988,192 tons, in March, 1923.

The tolls collected in April, $1,878,938.15 on commercial ships, established a new record. The tolls in March amounted to $1,827,718.44.

April set new records in all major features except the number of ships. This was 404, or 5 less than those in March, 1923.

NUMBER OF TRANSITS.

The total number of transits during the month was 440, which was 81 less than the record number of 521, established during March, 1923. The number of commercial transits, 404, lacked 5 of equalling March's record. The average daily number of commercial transits was slightly higher in April than in the preceding month—13.47 ships as compared with 13.2 in March.

The total number of vessels and craft of all kinds transiting the Canal during April, 1923, as compared with total transits for the same month in 1922 and 1921, is shown in the following table:

	April, 1923.	April, 1922.	April, 1921.
Commercial vessels	404	230	227
Noncommercial vessels (Army and Navy)	20	14	27
Launches, etc. (under 12 tons measurement)	16	9	9
Total vessels and craft through Canal	440	253	263

In addition to the vessels listed above, Panama Canal equipment consisting of dredges, tugs, barges, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	4	6	10
Pedro Miguel	35	35	70
Miraflores	24	27	51

COMMERCIAL TRAFFIC.[1]

The growth of Canal traffic during the present fiscal year is shown by the following table, which also affords a ready comparison with traffic for the corresponding period during the preceding fiscal year:

Month.	Number of ships.		Panama Canal net tonnage.		Cargo tonnage.		Tolls.	
	Fiscal year.		Fiscal year.		Fiscal year.		Fiscal year.	
	1922.	1923.	1922.	1923.	1922.	1923.	1922.	1923.
July	236	251	810,613	1,127,871	708,982	1,211,100	$804,503.11	$1,094,127.42
August	236	257	965,276	1,084,133	839,273	1,165,950	955,380.78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,138,188	892,001.54	1,020,064.55
October	255	294	1,069,554	1,310,392	985,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,280	855,440	1,426,860	923,048.70	1,264,436.54
December	239	304	1,017,244	1,375,263	953,053	1,535,102	1,003,598.27	1,312,570.12
January	210	352	846,516	1,610,692	807,298	1,591,932	847,767.55	1,505,285.55
February	212	326	886,535	1,529,547	838,074	1,563,278	866,266.18	1,423,954.21
March	234	409	975,811	1,988,192	960,089	1,940,928	956,726.76	1,827,718.44
April	230	404	974,833	2,007,690	1,046,047	2,187,145	953,256.11	1,878,938.15
10 months	2,265	3,131	9,413,930	14,441,470	8,748,925	15,206,346	9,250,484.62	13,637,939.73

[1] Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."

The increase in commercial traffic for the first 10 months of the present fiscal year over the corresponding period of last fiscal year has been 38 per cent in point of transits; 53 per cent in net tonnage; 74 per cent in cargo tonnage; and 47 per cent in tolls.

The following shows a summary of April, 1923, traffic as compared with the traffic for the same month in 1922 and 1921, and as compared with the average month's traffic for the calendar year 1922:

Monthly totals.	April, 1923.	April, 1922.	April, 1921.	Average per month for calendar year 1922.
Number of vessels	404	230	227	250
U. S. equivalent tonnage	1,634,457	771,932	771,116	864,647
Panama Canal net tonnage	2,007,690	974,833	955,503	1,082,714
Registered gross tonnage	2,579,551	1,219,338	1,203,087	1,359,595
Registered net tonnage	1,627,333	772,828	757,576	950,176
Tolls	$1,878,938.15	$953,256.11	$927,977.09	$1,047.783.98
Tons of cargo carried	2,187,145	1,046,047	907,613	1,142,546

The average daily number of transits, tonnage, tolls, cargo, etc., are shown herewith in comparative form:

Daily average.	April, 1923.	April, 1922.	April, 1921.	Average per day during calendar year 1922
Number of transits	13.5	7.7	7.6	8.2
Panama Canal net tonnage	66,923	32,494	31,850	35,596
Tolls	$62,631.27	$31,775.20	$30,932.57	$34,447.69
Tons of cargo carried	72,905	34,868	30,254	37,563

From the above it will be seen that as compared with April of last year the number of commercial transits increased 75 per cent; the net tonnage, 106 per cent; the tolls, 97 per cent; and cargo, 109 per cent.

AVERAGE TONNAGE, TOLLS, AND CARGO PER VESSEL.

The average tonnage, tolls and cargo per vessel transiting the Canal during the month are shown in the following statement, which also affords a comparison with the month of April in 1922 and 1921:

Average per vessel.	April, 1923.	April, 1922.	April, 1921.
United States equivalent net tonnage	4,045	3,356	3,397
Panama Canal net tonnage	4,970	4,238	4,209
Registered gross tonnage	6,385	5,301	5,299
Registered net tonnage	4,028	3,360	3,337
Tolls	$4,650.76	$4,144.59	$4,088.01
Tons of cargo (including vessels in ballast)	5,414	4,588	3,998
Tons of cargo (laden vessels only)	6,608	4,755	4,561

The average tonnage, tolls and cargo per vessel are higher than for any previous month of Canal traffic. This is due primarily to the many large ore and tank ships using the Canal at the present time.

UNITED STATES INTERCOASTAL TRAFFIC.

The number of vessels, tonnage, etc., in the United States intercoastal traffic exceeded that of any previous month, and was approximately 4 times the volume of intercoastal traffic in April of last year.

Of the 185 vessels transiting the Canal during the month engaged in the intercoastal trade, 117 were tankships. Of these, 58 were bound for the Pacific and all transited the Canal in ballast; the 59 bound for the Atlantic carried a total of 679,026 tons of mineral oils. This was an average of 11,509 tons per vessel.

The following statement, giving a summary of the intercoastal trade through the Canal for the month of April for the past 4 years shows the rapid increase in traffic over this route:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
April, 1923	95	534,294	238,636	90	516,214	876,228
April, 1922	24	114,283	137,207	26	131,193	118,662
April, 1921	19	92,033	94,484	14	68,368	59,306
April, 1920	7	24,431	27,493	13	55,779	80,581

In point of tonnage, tolls, and cargo, the United States intercoastal traffic made up slightly more than half of the total traffic through the Canal during the month. Approximately five-sixths of the total tonnage passing through the Canal under the United States flag was engaged in the intercoastal trade.

UNITED STATES SHIPPING BOARD VESSELS.

Thirty-seven vessels of the United States Shipping Board transited the Canal during the month of April, 1923; of these, 25 were employed in the United States intercoastal trade, of which all but 3 were tankers.

The following shows the number of transits, aggregate net tonnage, and cargo tonnage of Shipping Board vessels transiting the Canal during April for the past 3 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.	No. of transits.	Panama Canal net tonnage.	Cargo tonnage.
April, 1923	20	105,563	44,466	17	89,131	140,082
April, 1922	7	35,406	51,244	9	49,140	43,783
April, 1921	13	61,176	60,231	12	56,049	52,908

ORIGIN AND DESTINATION OF TONNAGE.

The following statements show by principal geographical areas, the origin and destination of all tonnage passing through the Canal during April, 1923, as compared with the corresponding month in 1922 and 1921; the figures show the net tonnage of vessels as determined by the Panama Canal rules of measurement:

	April, 1923.	April, 1922.	April, 1921.
Origin, Pacific-bound tonnage.			
East coast of United States	743,891	305,725	261,497
Europe (including British Isles)	183,803	138,836	131,840
East coast of Mexico	23,561	15,443	46,289
Cristobal, C. Z.	22,340	17,508	21,846
East coast of South America	20,426	11,210	9,828
Remaining	28,597	31,966	21.206
Totals	1,022,618	520,688	492,506
Destination, Pacific-bound tonnage.			
West coast of United States	630,637	145,819	141,584
West coast of South America	156,237	121,973	135,622
Australasia	85,201	81,436	64,577
Far East	99,648	126,130	131,637
Canada, west coast	32,236	29,900	12,157
West coast of Mexico and Central America	18,659	15,430	6,929
Totals	1,022,618	520,688	492,506
Origin, Atlantic-bound tonnage.			
West coast of United States	603,664	188,029	139,495
West coast of South America	237,790	124,842	168,585
Australasia	49,359	75,485	90,033
Far East	21,844	31,969	29,756
Canada, west coast	50,968	24,083	27,191
West coast of Mexico and Central America	21,447	9,737	7,937
Totals	985,072	454,145	462,997
Destination, Atlantic-bound tonnage.			
East coast of United States	693,753	242,087	197,311
Europe (including British Isles)	172,627	169,493	189,209
Mexico, east coast	41,401	6,615	53,334
Cristobal, C. Z.	37,357	20,266	22,521
South America, east coast	10,983	4,796	622
Miscellaneous	28,951	10,888	.....
Totals	985,072	454,145	462,997

With the total volume of tonnage passing through the Canal double that of a year ago, it will be noted that the great bulk of the increase is in tonnage routed to and from United States ports, with the other great geographical areas showing only moderate increases or decreases.

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of April, 1923, was $1,878,938.15. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from this source would have been increased by $324,032.41, distributed by nationality of vessels, as follows:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$50,631.90	$27,225.30	$77,857.20
Chilean	3,686.05	3,686.45	7,372.50
Danish	2,434.50	653.00	3,087.50
Dutch	1,297.40	7,109.15	8,406.55
French	1,268.45	2,260.05	3,528.50
German	3,908.55	6,348.65	10,257.20
Greek	.....	932.65	932.65
Italian	1,645.75	1,195.15	2,840.90
Japanese	3,123.85	3,422.10	6,545.95
Norwegian	1,022.20	6,079.20	7,101.40
Panaman	247.05	268.30	515.35
Peruvian	4,673.95	4,975.15	9,649.10
United States	60,420.96	125,516.65	185,937.61
Totals	134,360.61	189,671.80	324,032.41

The additional revenue that would have been assessed against vessels of United States registry would have been made up with respect to channels of trade in which the vessels were engaged, as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	$40,307.60	$103,074.05	$143,381.65
United States—foreign trade	15,925.91	17,346.65	33,272.56
United States—Canal Zone trade	1,621.20	774.70	2,395.90
United States—Hawaii trade	1,342.20	.....	1,342.20
Foreign trade	1,224.05	4,321.25	5,545.30
Totals	60,420.96	125,516.65	185,937.61

Of the additional $324,032.41 tolls that would have been collected by using exclusively the Panama Canal rules of measurement, $17,594.40 represents the portion that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in April, 1923, is shown in the following table, segregated by nationality of vessels; laden cargo vessels only are included:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.14	1.45	1.28
Chilean	.33	.45	.39
Colombian	.11	1.51	.95
Danish	1.32	2.05	1.59
Dutch	.99	1.34	1.27
French	.19	1.60	.76
German	.74	1.43	1.14
Greek	.....	2.00	2.00
Italian	.19	1.41	.87
Japanese	1.24	1.56	1.45
Norwegian	1.85	1.92	1.91
Panaman	.48	.96	.72
Peruvian	.15	.70	.48
United States	1.23	1.68	1.55
Average ratio, April, 1923	1.12	1.63	1.42
Average ratio, April, 1922	1.14	1.08	1.11
Average ratio, April, 1921	1.08	1.08	1.08

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States coastwise ports	0.44	1.70	1.06
United States and South America	0.46	1.80	1.37
United States and Europe	0.42	1.66	0.77
United States and Far East	1.38	1.45	1.39
Europe and South America	.58	1.45	1.09
Europe and Australasia	1.00	.88	.94
Europe and Canada	.95	1.55	1.23
Cristobal, C. Z. and South America	.26	.40	.34
United States and Australasia	1.12	.61	1.07
United States and Canada	.....	1.32	1.32

COMMODITY STATISTICS.

Cargo moving through the Canal during April totaled 2,187,145 long tons, and was more than double the total cargo transiting the Canal in April of last year. Of the total, 1,533,776 tons was enroute from the Pacific to the Atlantic, and was the greatest one-way cargo movement through the Canal of any month to date. Of the total Pacific to Atlantic cargo, 822,187 were mineral oils, as compared with 20,608 tons a year ago.

The following commodity statistics, compiled from cargo declarations submitted by masters of vessels at the time of transit, while incomplete, are indicative of the kind and quantity of the commodities carried by vessels transiting the Canal. A brief summary of the principal items is shown below, the figures representing tons of 2,240 pounds:

Commodity.	April, 1923.	April, 1922.	April, 1921.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	134,603	94,160	78,645
Railroad material	15,705	24,090	7,569
Machinery	10,619	6,179	8,600
Textiles and miscellaneous	15,461	5,341	7,200
Mineral oils:			
Crude	34,689	29,834	112,257
Lubricating	8,525	5,404	.....
Refined	65,818	36,854	48,126
Metals, various	27,078	12,854	12,276
Coal and coke	23,450	56,414	39,915
Cotton	16,756	2,412	2,692
Cement	9,150	4,762	5,412
Ammonia	8,798	1,393	.....
Sugar	7,564	41,173	25,216
Automobiles and accessories	6,888	609	394
Glass	5,195	3,536	3,519
Tobacco	4,153	973	3,880
Other and general	258,917	236,445	145,100
Totals, Atlantic to Pacific	653,369	562,433	500,801
Pacific to Atlantic.			
Mineral oils:			
Crude petroleum	744,800	10,177	.....
Lubricating oil	10,058	40	.....
Refined	67,329	.....	20,608
Nitrate	197,983	79,325	118,729
Lumber	170,712	102,194	23,339
Ores, various	82,933	11,470	14,752
Metals, various	30,606	16,416	13,528
Sugar	19,555	23,568	8,379
Cold storage and food products	18,516	20,408	35,029
Wheat	16,700	53,378	39,108
Coffee	14,210	12,350	7,754
Barley	13,121	19,360	12,152
Canned goods	11,857	16,306	13,506
Wool	10,970	21,932	16,384
Copra	8,432	3,059	3,629
Other and miscellaneous	115,994	93,631	79,915
Totals, Pacific to Atlantic	1,533,776	483,614	406,812

Cargo moving from the Atlantic to the Pacific was a sixth larger than in April a year ago, and approximately 30 per cent larger than 2 years ago. The amount of

cargo tonnage moving from the Pacific to the Atlantic through the Canal was more than 3 times the cargo tonnage for the corresponding month 1 and 2 years ago. By far the greatest increase has been in the shipments of mineral oils, but shipments of nitrate, lumber, and iron ore also show great gains. Shipments of these 4 commodities totaled 1,255,382 tons during the month as compared with 191,736 tons in April, 1922, and 162,676 tons in April, 1921.

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of April, 1923, was published in THE PANAMA CANAL RECORD under date of May 9, 1923.

The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo moving over the principal trade routes during April, 1923, as compared with traffic through the Canal over these routes for the same month in 1922 and 1921:

	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	April, 1923.	April, 1922.	April, 1921.	April, 1923.	April, 1922.	April, 1921.
United States coastwise ports	95	24	19	90	26	14
United States and South America	16	18	14	30	17	24
Europe and South America	14	9	12	18	11	10
United States and Far East	17	19	12	4	6	6
Europe and United States	12	6	5	4	7	9
Europe and Canada	5	1	3	4	4	3
Europe and Australasia	4	8	8	6	9	12
United States and Australasia	9	2	9	1	3	1
Mexico and South America	3	2	5	2	.....	4
Cristobal, C. Z. and South America	8	8	10	11	10	10
United States and Canada	.....	3	1	6	2	1
Miscellaneous	21	21	20	24	14	15
Totals	204	121	118	200	109	109
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	534,294	114,283	92,033	516,214	131,193	68,368
United States and South America	58,333	55,628	46,937	122,432	60,000	83,069
Europe and South America	59,177	38,702	46,786	82,274	46,008	47,192
United States and Far East	95,530	97,507	65,424	21,844	31,969	29,756
Europe and United States	61,952	31,536	24,706	24,264	39,681	40,491
Europe and Canada	27,237	6,334	9,110	22,649	19,019	16,267
Europe and Australasia	32,056	57,728	51,238	40,323	56,130	81,786
United States and Australasia	44,639	13,513	48,315	4,944	13,861	4,774
Mexico and South America	18,536	10,132	25,777	9,412	.....	21,025
Cristobal, C. Z. and South America	12,195	13,518	14,021	15,271	18,060	16,677
United States and Canada	.....	18,665	3,047	28,319	5,064	5,495
Miscellaneous	78,669	63,142	65,112	97,126	33,160	48,097
Totals	1,022,618	520,688	492,506	985,072	454,145	462,997
	Tons of cargo carried.			Tons of cargo carried.		
United States coastwise ports	238,636	137,207	94,484	876,228	118,622	59,306
United States and South America	26,782	46,155	45,949	220,744	89,037	90,765
Europe and South America	34,344	28,887	24,944	119,547	56,119	60,516
United States and Far East	131,646	151,230	80,674	31,644	33,874	11,303
Europe and United States	25,823	29,054	10,284	40,205	55,368	63,763
Europe and Canada	25,885	3,900	5,413	35,270	29,370	22,827
Europe and Australasia	32,284	32,815	31,792	35,572	50,182	69,692
United States and Australasia	50,203	16,615	65,621	3,000	10,332	5,420
Mexico and South America	34,033	19,600	46,368	.....	.....	.....
Cristobal, C. Z. and South America	3,217	3,026	3,908	6,074	6,486	5,356
United States and Canada	.....	22,559	5,670	37,432	6,634	6,876
Miscellaneous	50,516	51,385	85,694	128,060	27,590	10,988
Totals	653,369	562,433	500,801	1,533,776	483,614	406,812

LATIN-AMERICAN TRAFFIC.

Tonnage moving southbound through the Canal to Latin-American ports showed an increase over the month of April for the 2 preceding years, but the cargo tonnage shows a decrease. Northbound traffic from Latin-America, in point of both tonnage and cargo, was more than double that of a year ago.

The principal commodities routed to Latin America were fuel oil, coal and coke, cement, paper, and miscellaneous manufactured articles, while nitrates, iron ore, copper, sugar and coffee made up the bulk of the return cargoes.

In the tabulation below are shown the tonnage and cargo of all vessels routed to and from Latin America, segregated by flag:

Nationality.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	17	53,711	66,796	87,828	53,992	$64,982.86	62,974
Chilean	3	6,583	9,929	13,583	7,897	8,228.75	3,242
Colombian	2	668	670	1,728	1,228	804.00	76
Danish	3	7,809	9,136	10,098	6,226	9,366.36	5,983
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	5,754
French	2	7,964	8,533	11,699	7,432	9,783.10	737
German	4	11,277	14,984	18,497	11,317	14,096.25	11,056
Italian	2	9,357	9,025	12,516	7,451	9,196.25	1,732
Japanese	1	3,677	4,118	5,853	3,621	4,596.25	2,941
Norwegian	2	4,336	5,935	6,947	4,244	4,273.20	.....
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,178
Peruvian	3	4,225	8,296	13,764	7,154	5,281.25	1,270
United States	18	58,114	72,696	93,575	58,590	63,886.27	41,887
Totals, April, 1923	60	174,440	218,404	286,803	175,819	202,893.29	138,830
Totals, April, 1922	54	147,213	184,541	238,391	149,176	178,585.16	166,630
Totals, April, 1921	58	147,700	188,679	241,751	151,087	182,232.50	197,113
Pacific to Atlantic.							
British	28	99,255	116,780	155,384	95,979	119,918.04	169,122
Chilean	3	6,551	9,896	13,832	7,807	8,188.75	4,469
Colombian	3	1,002	1,005	1,845	1,119	1,215.60	1,517
Danish	2	5,372	6,140	8,514	5,291	6,715.00	12,592
Dutch	3	9,961	14,720	16,105	10,179	12,451.25	20,123
French	1	3,566	4,081	5,681	3,600	4,457.50	7,208
German	5	14,507	20,364	23,790	14,642	18,133.75	29,236
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,100
Italian	3	10,049	11,462	16,089	9,714	12,559.25	16,169
Japanese	2	8,429	9,777	12,459	8,292	10,536.25	17,545
Norwegian	8	21,696	27,666	34,523	21,299	27,120.00	54,826
Panaman	2	2,194	2,509	3,579	2,320	2,742.50	2,422
Peruvian	5	8,739	13,234	19,370	10,919	10,905.65	4,672
United States	14	45,874	55,903	75,349	45,550	56,939.35	89,569
Totals, April, 1923	80	240,334	297,584	391,696	239,941	95,806.64	437,570
Totals, April, 1922	48	106,178	140,959	184,303	112,161	130,237.44	163,347
Totals, April, 1921	62	173,766	212,587	280,957	173,393	192,143.57	160,873

TRAFFIC BY NATIONALITY.

Vessels of United States registry made up 59 per cent of the total transits through the Canal during the month, comprised approximately 65 per cent of the net tonnage, and carried 57 per cent of the total cargo in transit through the Canal.

The following statement shows the commercial traffic transiting the Canal during April, 1923, classified according to nationality of vessels, and then showing the combined traffic in both directions:

Nationality.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	48	190,347	242,390	300,397	188,497	$228,534.42	248,129
Chilean	3	6,583	9,929	13,853	7,897	8,228.75	3,242
Colombian	2	668	670	1,728	1,228	804.00	76
Danish	4	11,187	14,355	15,595	9,651	13,588.86	14,406
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	5,754
French	4	16,270	18,378	24,327	15,066	18,428.83	2,530
German	4	11,277	14,984	18,497	11,317	14,096.25	11,056
Italian	2	7,357	9,025	12,516	7,451	9,196.25	1,732
Japanese	4	14,803	18,023	23,736	14,560	18,503.75	23,382
Norwegian	4	12,759	15,982	20,601	12,800	12,947.72	9,500
Panaman	1	2,163	2,459	3,404	2,163	2,703.75	1,178
Peruvian	3	4,225	8,296	13,764	7,190	5,281.25	1,270
United States	123	546,215	662,300	851,266	541,341	546,115.44	331,114
Totals, April, 1923	204	828,410	1,022,618	1,306,995	823,665	884,124.27	653,369
Totals, April, 1922	121	409,406	520,688	650,055	410,266	505,319.46	562,433
Totals, April, 1921	118	397,568	492,506	615,818	391,141	490,505.91	500,801

Nationality.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Pacific to Atlantic.							
British	40	160,842	189,949	252,156	157,313	$196,392.54	261,774
Chilean	3	6,551	9,896	13,832	7,807	8,188.75	4,469
Colombian	3	1,002	1,005	1,845	1,119	1,215.60	1,517
Danish	2	5,372	6,140	8,514	5,291	6,715.00	12,592
Dutch	4	15,737	22,271	25,504	15,993	19,671.25	29,892
French	2	6,855	9,015	11,060	6,799	8,568.75	14,468
German	5	14,507	20,364	23,790	14,642	18,133.75	29,236
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,100
Italian	3	10,049	11,462	16,089	9,714	12,559.25	16,169
Japanese	5	21,366	24,816	31,981	20,978	26,707.50	38,778
Norwegian	9	27,095	33,186	41,800	26,353	33,744.00	63,706
Panaman	2	2,194	2,509	3,579	2,320	2,742.50	2,422
Peruvian	5	8,739	13,234	19,370	10,919	10,905.65	9,172
United States	116	522,599	637,178	817,860	521,190	645,345.59	1,041,481
Totals, April, 1923	200	806,047	985,072	1,272,556	803,668	994,813.88	1,533,776
Totals, April, 1922	109	362,526	454,145	569,283	326,562	447,936.65	483,614
Totals, April, 1921	109	373,548	462,997	587,269	366,435	437,471.18	406,812
Combined traffic.							
British	88	351,189	432,339	552,553	345,810	424,926.96	509,903
Chilean	6	13,134	19,825	27,685	15,704	16,417.50	7,711
Colombian	5	1,670	1,675	3,573	2,347	2,019.60	1,593
Danish	6	16,559	20,495	24,109	14,942	20,303.86	26,998
Dutch	6	20,293	28,098	32,815	20,497	25,366.25	35,646
French	6	23,125	27,393	35,387	21,865	26,997.58	16,998
German	9	25,784	35,348	42,287	25,959	32,230.00	40,292
Greek	1	3,139	4,047	5,176	3,230	3,923.75	8,100
Italian	5	17,406	20,487	28,605	17,165	21,755.50	17,901
Japanese	9	36,169	42,839	55,717	35,538	45,211.25	62,160
Norwegian	13	39,854	49,168	62,401	39,153	46,691.72	73,206
Panaman	3	4,357	4,968	6,983	4,483	5,446.25	3,600
Peruvian	8	12,964	21,530	33,134	18,109	16,186.90	10,442
United States	239	1,068,814	1,299,478	1,669,126	1,062,531	1,191,461.03	1,372,595
Totals, April, 1923	404	1,634,457	2,007,690	2,579,551	1,627,333	1,878,938.15	2,187,145
Totals, April, 1922	230	771,932	974,833	1,219,338	772,828	953,256.11	1,046,047
Totals, April, 1921	227	771,116	955,503	1,203,087	757,576	927,977.09	907,613

VESSELS WITHOUT CARGO.

The number of cargo ships transiting the Canal in ballast is shown in the following statement, the vessels being grouped according to flag:

	Atlantic to Pacific. No. of ships.	Panama Canal net tonnage.	Tolls.	Pacific to Atlantic. No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
British	5	23,968	$17,256.96	2	9,412	$6,776.64
French	1	4,909	3,534.48	.....	.....	.....
Norwegian	1	4,916	3,539.52	.....	.....	.....
United States	65	389,366	285,414.94	.....	.....	.....
General cargo ships:						
British	1	1,018	732.96	.....	.....	.....
Danish	1	3,468	2,496.96	.....	.....	.....
Norwegian	2	5,935	4,273.20	.....	.....	.....
United States	2	4,529	3,275.25	3	18,837	13,562.64
Totals	78	438,109	320,524.27	5	28,249	20,339.28

CLASSIFICATION OF VESSELS.

A further classification of commercial traffic through the Canal during the month, by kind of vessels, is shown below:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
Laden	3	18,356	$20,601.25	71	433,783	$447,810.97
Ballast	72	423,339	305,745.90	2	9,412	6,776.64
General cargo and passenger vessels:						
Laden	123	565,973	546,998.75	124	523,040	526,663.63
Ballast	6	14,950	10,778.37	3	18,837	13,562.64
Totals	204	1,022,618	884,124.27	200	985,072	994,813.88
Steamers	199	1,006,215	867,458.02	195	967,236	977,110.88
Motor vessels	3	16,259	16,508.75	3	17,589	17,498.25
Motor schooners	2	144	157.50	2	247	204.75
Totals	204	1,022,618	884,124.27	200	985,072	994,813.88

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of April, 1923. If tolls had been assessed against these vessels at commercial rates, the amount of tolls would have been approximately as indicated:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.	Tolls.	No. of ships.	Tonnage.	Tolls.
U. S. Navy vessels.						
Auxiliary	3	[1] 18,941	$19,645.20	2	[1] 11,352	$8,173.44
Cruiser	1	[2] 3,200	1,600.00	.....	.....	.....
Submarines	2	[2] 990	495.00	.....	.....	.....
Tugs	2	[2] 1,500	750.00	3	[2] 2,500	1,250.00
Launch	1	[2] 12	8.64	.....	.....	.....
Training ship	.....	.....	.....	1	[2] 1,050	525.00
U. S. Army vessels:						
Transports	.....	.....	.....	2	[1] 12,854	13,138.75
Mine planter	1	[1] 48	34.56	1	[1] 48	34.56
Launch	1	[1] 12	8.64	.....	.....	.....
Totals	11	[1] 19,013 [2] 5,690	22,542.04	9	[1] 24,254 [2] 3,550	23,121.75

[1] Panama Canal net tonnage. [2] Displacement tonnage.

The vessels listed above as transiting the Canal free of tolls, carried cargo as follows:

	Tons.
Atlantic to Pacific	10,116
Pacific to Atlantic	1,199

The following statement shows the number of launches transiting the Canal during the month; these vessels, though paying tolls, are excluded from the statement of commercial traffic:

	Number.	Tonnage.	Tolls.
Atlantic to Pacific	12	52	$46.30
Pacific to Atlantic	4	4	3.00

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of April, 1923, are shown in the following tabulation:

	Cristobal.	Balboa.	Totals.
Local cargo arriving ... tons	37,284	52,560	89,844
Local cargo shipped ... tons	3,478	2,906	6,384
Transit cargo arriving ... tons	2,210,706	2,178,007	4,388,713
Transit cargo clearing ... tons	2,208,412	2,171,079	4,379,491
Cargo received for transshipment ... tons	30,896	551	30,345
Cargo transshiped ... tons	30,039	552	30,591

	Cristobal.	Balboa.	Totals.
Vessels supplied with bunker coal:			
Army vessels	2	.....	2
Commercial, other than Panama Railroad	54	6	60
Panama Railroad vessels	2	.....	2
Total vessels supplied with coal	58	6	64
Coal supplied to above vessels:			
Army vessels ... tons	94	.....	94
Commercial, other than Panama Railroad ... tons	16,986	691	17,677
Panama Railroad vessels ... tons	754	.....	754
Total coal supplied to vessels ... tons	17,834	691	18,525
Coal issues, miscellaneous:			
Panama Canal departments ... tons	302	55	357
Panama Railroad ... tons	.....	30	30
U. S. Army, excepting vessels ... tons	410	.....	410
Individuals and companies ... tons	266	.....	266
Total coal issued from Panama Canal deposits:			
April, 1923 ... tons	18,812	776	19,588
April, 1922 ... tons	19,342	7,345	26,687
April, 1921 ... tons	29,353	2,461	31,814
Coal on hand May 1, 1923 ... tons	68,436	11,920	80,356
Coal on hand April 1, 1923 ... tons	75,211	2,896	78,107
Coal received during the month ... tons	12,037	9,800	21,837
Fuel oil issues from Panama Canal tanks:			
To Panama Canal departments ... bbls	5,373	19,076	24,449
Panama Railroad Company ... bbls	552	.....	552
Army and Navy ... bbls	605	73	678
Total issues and sales ... bbls	6,530	19,149	25,679
Fuel oil on hand, May 1, 1923 ... bbls	18,040	21,695	39,735
Fuel oil on hand, April 1, 1923 ... bbls	24,570	7,596	32,166
Received during the month ... bbls	.....	33,462	33,462
Dropped on survey during month ... bbls	.....	214	214
Diesel oil issued during April, 1923 ... bbls	9	.....	9
Diesel oil sold during April, 1923 ... bbls	56	.....	56
Diesel oil on hand, May 1, 1923 ... bbls	42,959	843	43,802
Oil pumped for individuals and companies ... bbls	378,414	601,167	979,581
Miscellaneous transfers ... bbls	2,512	10,265	12,777
Gasoline pumped for Panama Canal ... bbls	.....	1,436	1,436
Gasoline pumped for individuals and companies ... bbls	.....	1,824	1,824
Total fuel oil and gasoline handled ... bbls	387,521	667,303	1,054,824
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	34	9	43
Measured for Panama Canal net tonnage	5	.....	5
Remeasured for Panama Canal net tonnage	20	3	23
Panama Canal net tonnage corrected	28	17	45
U. S. equivalent net tonnage corrected	23	18	41
Services of harbor equipment:			
Tugs, total operating hours	385	418	803
Launches, total operating hours	1,306	1,896	3,202
Scows, total operating days	.....	12	12
Revenues from tug service, pilotage, etc.:			
Tug service	$10,857.50	$12,052.20	$22,909.70
Launch service	2,200.00	3,534.50	5,734.50
Pilotage	13,434.00	8,862.00	22,296.00
Seamen	6,912.00	7,056.00	13,968.00
Wharfage	.....	6,060.67	6,060.67
Ships measured	230.00	.....	230.00
Miscellaneous cash collections	1,239.10	858.00	2,097.10
Vessels repaired at Panama Canal shops:			
Commercial	37	23	60
U. S. Army and Navy	7	5	12
Canal equipment	4	14	18
Vessels dry-docked:			
Commercial	5	4	9
U. S. Army and Navy	3	3	6
Canal equipment	5	2	7
Clearances issued	247	219	466
Bills of health issued	238	219	457

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of April, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	458	2,927,347	1,864,554	417	2,662,455	1,675,218
Vessels entering the port but not transiting Canal	58	273,244	164,848	13	58,881	35,955
Vessels transiting Canal and handling passengers and cargo	75	389,790	246,231	42	204,730	123,596
Ships clearing.						
All vessels, including those transiting Canal	458	2,968,078	1,892,258	423	2,709,425	1,725,390
Vessels entering the port but not transiting Canal	60	292,476	176,201	14	88,524	66,377
Vessels transiting Canal and handling passengers and cargo	69	389,628	246,415	42	218,164	139,279

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of April, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	883	415	1,298	1	1	2
From Pacific ports	273	82	355	178	49	227
Total disembarking	1,156	497	1,653	179	50	229
Embarking:						
For Atlantic ports	1,188	500	1,688	24	5	29
For Pacific ports	152	44	196	72	25	97
Total embarking	1,340	544	1,884	96	30	126
Remaining on board vessels:						
From Atlantic to Pacific ports	413	548	961	455	814	1,269
From Pacific to Atlantic ports	1,073	749	1,822	1,316	784	2,100
From Atlantic to Atlantic ports	657	76	733	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	22	183	205
Total remaining on board	2,143	1,373	3,516	1,793	1,781	3,574
Total passengers arriving	3,299	1,870	5,169	1,972	1,831	3,803
Total passengers departing	3,483	1,917	5,400	1,889	1,811	3,700

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of April, 1923:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$94.95	$936.37	$759.42	$42.34	.....	$1,833.08
Panama Railroad vessels	29.70	2,824.88	432.78	504.82	.....	3,792.18
Other commercial vessels	1,123.54	11,155.76	4,882.81	1,811.61	.....	18,973.72
Total sales, April, 1923	1,248.19	14,917.01	6,075.01	2,358.77	.....	24,598.98
Total sales, April, 1922	1,545.13	21,009.23	4,140.21	1,710.27	.....	28,404.84
Total sales, April, 1921	3,395.20	34,038.52	5,812.02	2,394.92	5,577.43	51,218.09
Sales at Balboa to:						
U. S. Government vessels	182.29	8,599.24	951.57	1,207.49	.....	10,940.59
Panama Railroad vessels	78.00	371.65	342.77	88.24	.....	880.66
Other commercial vessels	682.06	8,457.64	1,660.28	1,628.88	593.47	13,022.33
Total sales, April, 1923	942.35	17,428.53	2,954.62	2,924.61	593.47	24,843.58
Total sales, April, 1922	656.33	15,023.45	2,700.85	794.70	1,013.73	20,189.06
Total sales, April, 1921	937.65	23,292.01	5,243.27	1,164.55	550.16	31,187.64

LOCK OPERATION.

On April 26, 22 commercial seagoing ships and 1 Navy cruiser made the transit of the Canal. At the Gatun Locks, only 1 chamber was used, on account of the cast lock being out of service for painting the gates. The first 2 lockages were tandem, after which follow-up lockages were made on both south and northbound ships. The average interval of clearing time between 16 follow-up lockages using the double culvert, was 41 minutes. Twenty-one lockages were made this date, the first ship arriving at 7.10 a. m., and the last one clearing at 12.02 a. m., or 16 hours and 52 minutes; averaging approximately 48 minutes per lockage.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during April, 1923, as compared with the same month in 1922 and 1921:

	Commerical.			Noncommercial.			Comparative grand totals.		
	North.	South.	Total.	North.	South.	Total.	April, 1923.	April, 1922.	April, 1921.
Number of lockages.									
Gatun	190	198	388	5	4	9	397	235	229
Pedro Miguel	194	203	397	14	24	38	435	261	271
Miraflores	194	203	397	11	19	30	427	248	260
Number of vessels put through locks.									
Gatun	205	216	421	18	17	35	456	266	283
Pedro Miguel	204	207	411	46	46	92	503	300	336
Miraflores	204	207	411	34	38	72	483	303	312

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels	25	22	21
Panama Canal equipment	10	70	51

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,500,620,000	1,340,480,000	1,338,740,000
Leakage	30,000,000	3,900,000	20,000,000
Maintenance	.....	12,440,000	7,490,000
Total consumption, April, 1923	1,530,620,000	1,356,820,000	1,366,230,000
Total consumption, April, 1922	913,900,000	915,390,000	769,620,000
Total consumption, April, 1921	911,560,000	837,920,000	822,850,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of April, 1923, are shown in comparative form:

Rainfall.	April, 1923.	April, 1922.	April—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific section	.64	.41	7.70	.06	3.36
Central section	.53	.47	9.12	.27	3.57
Atlantic section	2.28	2.64	12.83	1.18	5.38
Maximum recorded on any 1 day	1.05	1.32	[1] 10.86	.....	.....
Gatun Lake watershed	1.38	1.15	12.00	.87	4.11
Chagres River watershed above Alhajuela	2.37	2.02	16.06	.51	4.34
Maximum recorded for month at any 1 point	5.93	4.13	21.73	.....	.....
Minimum recorded for month at any 1 point	.00	.00	.....	.00	.....

NOTE.—This report does not include Bocas del Toro.

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28–29, 1909.

Rainfall.	April, 1923.	April, 1922.	April—Years of Record.		
			Maximum.	Minimum.	Mean.
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	558	834	3,140	304	1,019
Maximum momentary discharge for the month	1,245	5,300	[2] 170,000	.....	.....
Gatun Lake watershed total yield	676	1,178	6,263	328	1,861
Gatun Lake watershed, net yield	−185	210	5,400	−706	1,111
Draft on Gatun Lake for lockages and power	2,371	2,069	2,371	[3] 1,019	[3] 1,730

NOTE.—This report does not include Bocas del Toro.

[2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including April, 1914.

SEISMOLOGY.

Five slight seismic tremors were recorded during the month, 1 on the 24th, and 4 on the 29th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

	April, 1923.	April, 1922.	April, 1921.
Gross output, KWH:			
Gatun hydroelectric station	4,324,900	4,471,000	5,660,900
Miraflores steam plant	200	250	39,290
Power distributed to consumbers.....KWH..	3,757,755	3,743,444	4,776,562
Loss of power in plant auxiliaries, transmission and transformation.....KWH..	567,345	727,806	923,628
Per cent of loss of power to gross output	13.11	16.27	16.20
Water consumption.....cubic feet..	3,305,507,335	3,589,299,000	4,239,320,000
Oil consumption.....barrels..	1,050	2,009	2,135

Miscellaneous electrical repairs and installations of electrical equipment were made on 12 vessels during the month. There were 247 work orders issued for work to be performed by the Electrical Division during the month as compared with 257 for April of last year.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 48 vessels at Cristobal and 42 vessels at Balboa shops. Of these, 13 were placed in dry dock at Cristobal and 9 at Balboa.

The more important repair work performed during the month included the following: The general overhauling of the steamship *Colon* was carried forward and practically all of the dismantling work was completed. The crank and thrust shafts and various auxiliary units sent to the shops were worked upon, and preparations made for installing the new boilers.

Temporary repairs were made to the damaged bottom of the steamship *G. Harrison Smith*, such as to enable her to proceed on her way without being dry-docked.

The steamship *Olockson* was removed from its anchorage in Panama Bay, towed to Balboa shops, and the necessary repairs and bulkheading carried out to permit towing of the vessel to the States.

The schooners *Alva*, *Linda S.*, and *Laura C. Hall*, were dry-docked, cleaned, and bottoms painted, and faulty timbers in bottom renewed.

The tugs *Tavernilla* and *Porto Bello* were dry-docked, cleaned, and bottoms painted; new propellors installed; engines, pumps, and valves overhauled.

The output of the foundry in patterns and castings, as compared with the preceding month, was as follows:

	April, 1923.			March, 1923.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	9	228	26,109	22	395	25,381
Steel	3	213	17,731	.....	112	13,143
Nonferrous	11	525	5,816	12	672	7,451

A total of 557 job orders were completed during April, leaving 489 unfinished at the close of the month. Two blanket orders were authorized during the month, leaving a total of 347 standing orders for work to be performed, April 30, 1923.

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and the sales of water to vessels, are shown below in comparative form:

	April, 1923.	April, 1922.	April, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	708,093,250	658,810,000	783,872,250
Filtration plants	417,145,000	380,175,000	479,176,000
Water consumed by Panama City	91,143,000	78,703,000	97,213,000
Water consumed by Colon	67,513,750	58,159,750	60,558,750
Sales of water to vessels	9,784,860	10,616,628	10,983,210

DREDGING.

The East and West Culebra slides have shown but slight movements during the month. A total of 76,200 cubic yards of material was removed from the basin at the foot of East Culebra slide, making a grand total of 810,200 cubic yards removed from both basin and prism, as a consequence of the slide of December 21, 1922. All other slides, including Cucuracha, have been quiescent during the month. A navigable channel of 37 feet was maintained, in spite of a considerable lowering of the Lake level (from +84.24, April 1, to +82.78, May 1). There was no interference with Canal traffic during the month.

The total excavation during April, was 377,336 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Station.	Equipment.
	Earth.	Rock.			
48,400	2,400	46,000	Maintenance	La Pita Improvement project	*Gamboa.*
12,850	5,150	7,700	Maintenance	East Culebra slide—Gaillard Cut	*Gamboa.*
71,200	23,700	47,500	Maintenance	East Culebra slide—Gaillard Cut	*Cascadas.*
29,150	8,700	20,450	Maintenance	West Culebra slide—Gaillard Cut	*Cascadas.*
250	250	.....	Maintenance	Cucuracha slide—Gaillard Cut	*Cascadas.*
6,200	2,500	3,700	Maintenance	Lirio (East)—Gaillard Cut	*Cascadas.*
2,150	700	1,450	Maintenance	Lirio (East)—Gaillard Cut	*Gamboa.*
5,200	2,100	3,100	Maintenance	Barge Repair (East)—Gaillard Cut	*Gamboa.*
1,000	400	600	Maintenance	Gatun Lake	*Gamboa.*
68,400	68,400	.....	Maintenance	North of Pedro Miguel Locks	*No. 86.*
46,900	46,900	.....	Maintenance	Pacific Entrance	*No. 86.*
84,700	84,700	.....	Auxiliary	Balboa Inner Harbor	*No. 86.*
936	936	.....	Auxiliary	Dredging sand at Chame	*La Valley.*

VITAL STATISTICS.

A total of 129 deaths occurred during the month of April, 1923, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to an annual death rate of 12.59 per thousand. The leading causes of death were: tuberculosis 19; nephritis (acute and chronic) 13; pneumonia (broncho and lobar) 12; diarrhea and enteritis, 10; cancer (various organs) 9; organic diseases of the heart, 8. Of the total deaths, 36, or 28 per cent, occurred among children under 5 years of age. There were 9 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 232 live births reported during the month, and 19 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 24.49 per 1,000 population. Deaths among children under 1 year of age numbered 24, giving an infant mortality rate of 103.45 per 1,000 live births.

The total number of malaria cases reported during the month was 47. Of these, 4 cases were reported from Panama City, 1 from Colon, 32 from the Canal Zone, and 10 originated outside of our sanitated area. Of the total, 2 were employees, 21 nonemployees, and 24 were Army and Navy.

OCCUPANTS OF QUARTERS.

The number of persons occupying Panama Canal and Panama Railroad quarters, shown in comparative form, was as follows:

	As of April 30, 1923.			Comparative totals.		
	Men.	Women.	Children.	April, 1923.	April, 1922.	April, 1921.
Americans	2,348	1,904	2,044	6,296	6,347	8,033
Europeans	74	28	68	170	234	260
West Indians	4,166	2,702	5,898	12,766	12,311	11,814
Totals, April, 1923	6,588	4,634	8,010	19,232	.....	.....
Totals, April, 1922	6,549	4,502	7,841	.....	18,892	.....
Totals, April, 1921	8,148	4,561	7,398	.....	.....	20,107

WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of April 18, 1923, by departments, together with a comparison of the working force for the preceding month, and that of April, 1921:

	As of April 18, 1923.		Total employees.		
	Gold.	Silver.	April, 1923.	March, 1923.	April, 1922.
Operation and Maintenance:					
Office	30	53	83	83	83
Electrical	146	225	371	373	310
Municipal Engineering	71	591	662	542	571
Lock Operation	180	593	773	825	759
Dredging	138	833	971	948	728
Mechanical	322	667	989	961	895
Marine	160	465	625	605	544
Fortifications	15	175	190	118	259
Totals	1,062	3,602	4,664	4,455	4,149
Supply Department:					
Transportation	35	154	189	187	173
Quartermaster	133	945	1,078	1,054	925
Subsistence	7	99	106	141	210
Commissary	158	800	958	1,082	933
Cattle Industry—Plantations	7	321	328	325	404
Hotel Washington	8	89	97	100	91
Totals	348	2,408	2,756	2,889	2,736
Accounting Department	182	8	190	189	184
Health Department	215	705	920	925	945
Executive Department	466	256	722	721	736
Totals	863	969	1,832	1,835	1,865
Panama Railroad Company:					
Superintendent	46	247	293	333	266
Transportation	64	107	171	174	164
Receiving and Forwarding Agent	77	696	773	869	741
Coaling Stations	69	716	785	723	617
Totals	256	1,766	2,022	2,099	1,788
Grand totals, April, 1923	2,529	8,745	11,274	.....	.....
Grand totals, March, 1923	2,533	8,745	.....	11,278	.....
Grand totals, April, 1922	2,598	7,940	.....	.....	10,538

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month, as compared with the preceding month and the corresponding month a year ago, were as follows:

	April, 1923.	March, 1923.	April, 1922.
Material received on U. S. requisitions:			
For Department of Operation and Maintenance	$122,876.30	$225,532.86	$97,145.92
For other Canal departments	2,873.95	3,881.16	1,611.94
Totals	125,750.25	229,414.02	98,757.86

	April, 1923.	March, 1923.	April, 1922.
Cash sales on the Isthmus:			
Stock	$18,927.58	$36,318.04	$31,646.39
Fuel oil	.....	877.42	25.40
Scrap	4,542.55	1,505.69	521.37
Obsolete and second-hand material	100.00	1,151.68	2,391.96
Totals	23,570.13	39,852.83	34,585.12

Respectfully,
JAY J. MORROW,
Governor.

Ships at Canal Repair Shops.

The following vessels were at Cristobal shops for repairs during the two weeks ended May 21:

Barge *106*, drydock, renew angles on both ends of deck; steamships *Solana*, make 5 piston ring castings; *Devon*, install copper pipe line; *Parismina*, straighten crank shaft; *Corinto*, forge pump arm; weld slide valve; renew chock; *Cristobal*, fasten eye-pads; continue chipping sides, main deck and alleyways around orlop deck; re-metal bottom half of port after spring bearing; U. S. mine planter *Graham*, additional work on main engine and winch; steamship *Hampton Roads*, make 2 piston rods, lock nuts, bush and machine link pins; drill burner tips and braze pipe; yacht *Restless*, make canvas awnings; steamship *Mina Brea*, (fire damage), repair steering gear and engine; install evaporator pump over coffer dam; overhaul ballast pump; repair 2 transfer oil pumps; repair anchor windlass; install new gauges and thermometers; make whistle valve-stem; repair sanitary pipes; clean boilers, expand tubes and repair leaky tubes; overhaul fuel valves; repair port cargo valve; overhaul smoke box doors, furnace fronts and burner brackets; repair electrical wiring and telegraph; install suction hose to pump oil into cofferdam; clean and white-wash bunker bulkhead; calk leaky rivets in bunker bulkhead and settling tanks; remove wreckage of navigation bridge; renew linoleum on floors; renew flag locker; clean all bilges and tank tops; install compass; furnish steam, compressed air, lights and water; repair cofferdam lid; renew screen doors and salt water showers; tug *Favorite*, steamships *Acajutla*, *Volunteer*, *Magunkook*, *Persian Prince*, *Alvarado*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending May 19, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Reina M. Cristina	Spanish Line	.....	May 13	.....	426
Pastores	United Fruit Co	May 13	May 13	2	(2)
Abangarez	United Fruit Co	May 13	May 14	389	173
Cristobal	Panama Railroad Steamship Line	May 13	May 19	2,436	2,306
Haarlem	Royal Netherlands W. I. Mail	May 13	May 14	270	104
Urubamba	Peruvian Line	.....	May 15	.....	193
Santa Elisa	Grace Line	May 14	May 14	(1)	176
Balboa	Cia. Costanera Colombiana	May 14	May 15	32	5
Drechtdyk	Holland-American Line	May 15	May 17	339	107
Leon XIII	Spanish Line	May 15	May 17	167	½
Orita	Pacific Steam Navigation Co	May 15	May 15	49	(2)
San Benito	United Fruit Co	May 15	May 16	6	(2)
Ulua	United Fruit Co	May 15	May 16	149	346
Acajutla	Pacific Steam Navigation Co	.....	May 16	.....	869
Cartago	United Fruit Co	May 16	May 17	705	254
Carrillo	United Fruit Co	May 16	May 17	147	165
Abangarez	United Fruit Co	May 17	May 17	21	88
Sixaola	United Fruit Co	May 17	May 17	38	80
Teno	Chilean Line	May 17	May 18	(1)	181
Corinto	Pacific Mail Steamship Line	.....	May 18	.....	1,649
Hampton Roads	McAllister Bros	May 17	May 19	8,267	(2)
Oroya	Pacific Steam Navigation Co	May 18	May 18	55	(2)
Alvarado	Pacific Steam Navigation Co	May 19	.....	111	.....
Olaf L. Konsted	New Orleand & S. A. S. S. Line	May 19	.....	59	.....

[1] No cargo discharged. [2] No cargo laded.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 19, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Gargoyle	12	14.40	13	6.25	13	13.52	13	17.30	American	Vacuum Oil Co	425.0	57.2	19.0	Philadelphia	San Francisco	Ballast		7,510	4,989
Herakles	12	17.35	13	7.20	13	14.26	13	15.51	Norwegian	Brunsgaard & Co	389.9	54.0	15.2	Newport News	Iquique	Ballast		5,680	4,220
Sciota [1]			13	7.45	13	15.59			American	U. S. Navy	149.3	30.0		Cristobal	Balboa	Ballast			
Defender	12	22.35	13	8.05	13	15.28	13	16.40	British	T. and J. Harrison	482.0	58.0	24.0	Liverpool	Seattle	General	7,180	8,844	6,144
Caddo	12	22.40	13	8.55	13	15.50	13	17.09	American	Standard Oil Co	414.5	55.0	21.8	New York	Los Angeles	Ballast		6,437	4,442
British Sergeant	13	6.00	13	9.30	13	16.47	13	20.40	British	British Tanker Co	409.6	54.0	18.4	Barrow	San Francisco	Ballast		6,432	3,904
Robin Goodfellow	13	11.00	13	11.10	13	18.45	13	22.05	American	Skinner & Eddy	424.8	55.2	27.6	New York	San Diego	General	8,784	7,473	5,536
Devon City	13	13.45	14	6.15	14	14.14	14	16.00	British	Reardon Smith Line	390.0	52.6	25.0	New York	Brisbane	General	7,134	5,540	4,283
Agwisun	13	16.07	14	6.55	14	14.25	14	18.30	American	Atlantic Gulf & W. I. S. S. Co	429.0	59.0	21.0	New York	Los Angeles	Ballast		7,612	5,305
Dillwyn	13	18.20	14	7.02	14	15.11	14	19.12	American	Malston Co	435.0	56.0	19.0	New York	Los Angeles	Ballast		7,441	5,180
R-24 [2]			14	7.45	14	15.09			American	U. S. Navy	175.0	16.7		Cristobal	Balboa	Ballast			
Orowaiti	14	5.30	14	8.00	14	16.00	14	21.16	British	Union Steamship Co. of N. Z.	408.6	53.0	21.0	Falmouth	San Francisco	Ballast		7,073	5,035
Tamaha	14	7.42	14	8.30	14	16.25	14	17.55	British	Standard Transportation Co	420.5	54.4	27.6	Tampico	Tocopilla	Fuel oil	8,700	6,673	4,689
Swifteagle	14	8.40	14	9.05	14	16.46	14	22.30	American	Swiftsure Oil Transport	464.0	60.0	19.6	Fall River	Los Angeles	Ballast		8,473	5,997
Corvus	14	6.28	14	10.15	14	17.36	14	23.40	American	Planet Steamship Co	410.0	54.2	24.6	Baltimore	Seattle	General, steel	7,522	6,604	4,655
Montrolite	14	10.15	14	10.40	14	18.30			British	Imperial Oil Co	421.0	57.3	17.0	Habana	Talara	Ballast		7,378	4,898
S. B. Hunt	14	15.05	15	6.24	15	12.50	15	15.40	American	Standard Oil Co	429.3	59.2	20.0	Cienfuegos	Los Angeles	Ballast		7,652	5,522
Thomas H. Wheeler	14	17.25	15	6.40	15	13.46	15	14.54	American	Standard Oil Co	425.0	57.2	19.0	New York	Los Angeles	Ballast		7,481	4,804
Charles Pratt	14	21.40	15	7.45	15	14.51	15	15.45	American	Standard Oil Co	500.0	68.0	22.0	New York	Los Angeles	Ballast		10,313	7,492
Yeifuku Maru	14	22.45	15	8.08	15	17.00	15	22.30	Japanese	Kokusai Kisen Kaisha	385.0	51.0	27.1	Philadelphia	Kobe	Iron, cotton	6,906	5,933	4,595
H. H. Rogers	15	0.35	15	8.20	15	16.07	15	17.25	American	Standard Oil Co	500.0	68.0	18.0	Charleston	Los Angeles	Ballast		10,308	7,668
Balboa	14	10.30	15	9.10	15	17.55	15	19.06	Colombian	Comp. Costanera Colombiana	190.0	29.0	14.10	Pto. Colombia	Tumaco	General, salt	474	737	335
Urubamba	8	14.03	15	10.34	15	18.04	15	19.15	Peruvian	Peruvian Line	381.0	46.0	18.10	Cristobal	Callao	General	193	4,803	2,951
Swiftwind	15	17.40	16	6.10	16	13.44	19	18.35	American	Swiftsure Oil Transport	464.0	60.0	16.0	Fall River	Los Angeles	Ballast		8,473	5,997
Halsey	15	18.38	16	7.10	16	17.33	16	22.35	American	Malston Steamship Co	435.0	56.0	20.0	New York	Los Angeles	Ballast		7,642	5,324
Marore	15	19.20	16	7.45	16	16.01	16	23.10	American	Ore Steamship Co	550.3	72.2	18.0	Baltimore	Cruz Grande	Ballast		15,551	4,297
Acajutla	5	17.55	16	8.22	16	16.48	16	19.12	British	Pacific Steam Navigation Co	215.7	33.5	17.6	Cristobal	Champerico	General	859	1,273	706
Valdura	16	6.35	16	8.58	16	18.46	16	19.41	British	Valdura Steamship Co	413.0	56.0	17.0	Newport News	Iquique	Ballast		6,101	4,358
Escoval [3]	16		17		17	8.29			Panaman	A. Flores				Cristobal	Gatun	Unknown		2	2
Mercedes [3]	16		17		17	8.29			Panaman	A. Flores				Cristobal	Gatun	Unknown		2	2
Drechtdijk [4]	15	17.48	17	6.18	17	13.45	17	15.40	Dutch	Holland-American Line	485.0	62.0	24.9	Rotterdam	Vancouver	General	6,838	10,793	7,619
Garfield	16	20.05	17	6.20	17	14.21	17	21.00	American	Grace Line	299.4	45.0	20.0	New York	Arica	General	2,364	3,256	2,010
Ningchow	16	18.25	17	7.15	17	15.09	17	16.08	British	Alfred Holt & Co	480.6	58.3	30.6	New York	Yokohama	General	10,179	9,468	6,709
Mazunkook	16	8.05	17	8.25	17	15.42	18	1.50	American	Moore Dry Dock Co	340.0	48.0	14.0	New Orleans	San Francisco	Ballast		4,342	2,969
Volunteer	17	7.35	17	8.45	17	18.35			American	Tampa Interocean Line (S.B.)	410.0	56.0	31.0	Galveston	Yokohama	General	10,046	8,214	6,207
Delaware Sun	17	8.25	17	9.25	17	19.56	18	3.30	American	Sun Oil Co	480.6	66.0	21.0	Philadelphia	Los Angeles	Ballast		9,402	6,586

[1] Tug. [2] Submarine. [3] Cayuca. [4] Motor ship.

Leon XIII	15	21.53	17	10.10	17	20.14	17	21.36	Spanish	Spanish Line	412.0	46.1	21.9	Barcelona	Valparaiso	General	217	5,521	3,729
Restless[5]	17	7.15	18	6.18	18	12.50			American	Alex. Smith Cochrane	186.0	29.0	14.0	Plymouth	Honolulu	Ballast		776	287
Willsolo	17	14.30	18	6.18	18	15.06	18	18.10	American	Williams Line	435.0	57.6	26.4	Philadelphia	Seattle	General	9,037	7,983	5,882
H. M. Storey	17	14.43	18	6.30	18	14.00	18	14.50	American	Standard Oil Co	500.0	68.2	21.0	New York	Los Angeles	Ballast		11,224	7,849
J. C. Donnell	17	17.23	18	7.22	18	15.34	18	16.20	American	Atlantic Refining Co	500.0	68.2	22.0	Philadelphia	Los Angeles	Ballast		10,435	7,900
Teno	17	16.58	18	7.32	18	16.30	18	17.35	Chilean	Chilean Line	421.8	56.0	23.6	New York	Valparaiso	General	1,306	7,758	4,672
Langton Hall	17	12.12	18	8.00	18	15.46	18	16.37	British	Ellerman Steamship Line	403.5	54.4	28.6	Mobile	Yokohama	(7)	7,979	7,340	5,554
Woyo Maru	18	4.30	18	8.40	18	16.40	18	17.55	Japanese	Toyo Kisen Kaisha	400.0	53.0	25.0	New York	Yokohama	(8)	6,420	6,187	4,541
Oriflamme	18	6.22	18	9.18	18	17.18	18	23.50	British	Davis & Newman	400.5	51.2	18.0	Arzon	Martinez	Ballast		5,930	4,178
Bohemian Club	18	8.12	18	9.32	18	17.07	18	22.30	American	Atlantic Refining Co	425.0	57.2	20.5	Philadelphia	Los Angeles	Ballast		7,204	4,769
Sydney M. Hauptman	18	10.15	18	10.22	18	18.46	19	1.49	American	McCormack Intercoastal Co	401.0	53.2	26.6	New York	Seattle	General, steel	8,400	7,082	5,167
Hermion	18	10.20	18	11.00	18	19.12	18	20.24	Norwegian	Bruusgaard Kiosterud & Co	389.8	54.1	24.0	New York	Yokohama	(9)	7,200	5,746	4,232
Alameda	17	16.55	18	11.32	18	19.48	18	21.03	American	H. and Craig Co	430.0	58.2	22.6	Philadelphia	Los Angeles	Ballast		7,425	5,356
Corinto	12	18.10	18	11.20	18	19.10	18	21.56	American	Pacific Mail Steamship Co	261.0	40.0	16.7	Cristobal	San Francisco	General	1,630	2,403	1,560
Astyanax	18	10.25	18	12.40	18	20.34	18	21.37	British	Alfred Holt & Co	392.3	49.2	24.0	Glasgow	Tacoma	General	5,597	5,165	3,211
Oroya	18	8.22	18	13.05	18	22.10	19	6.50	British	Pacific Steam Navigation Co	525.3	62.0	24.0	Liverpool	Valparaiso	General	4,506	13,133	9,064
Golden Rod[6]	10		18		18				American	J. A. Walker	29.0	7.8		Cristobal	Gatun Lake	Ballast		4	4
William A. McKenny	18	19.40	19	6.23	19	13.53	19	16.15	American	Crowell & Thurlow	395.0	55.1	24.6	Norfolk	Los Angeles	(10)	6,019	6,532	4,528
Amazonas	18	20.20	19	7.25	19	14.27	19	15.38	Peruvian	Peruvian Line	350.0	42.5	23.0	Cardiff	Callao	Coal	2,497	3,545	2,382
Pennsylvanian	19	1.38	19	8.15	19	15.16	19	16.15	American	American-Hawaiian Line	407.7	53.7	23.0	Boston	Los Angeles	General	5,313	7,107	4,916
Tuscaloosa City	19	8.00	19	8.40	19	16.05	19	20.34	American	U. S. Steel Products Co	424.2	56 2	26.10	Baltimore	San Diego	General, steel	8,419	7,611	5,450
Hampton Roads	17	7.00	19	13.08	19	20.30	19	21.24	American	McAllister Bros. (S. B.)	431.0	59.0	17.8	Mobile	Los Angeles	Ballast		8,093	5,440

[5] Yacht. [6] Launch. [7] Steel and sulphate ammonia. [8] Iron, steel, machinery, rosin, soda and ammonia. [9] Gasoline and case oil. [10] Structural steel, railroad steel and general cargo.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Livingston Roe	13	1.00	13	7.49	13	15.03	13	15.03	American	Standard Oil Co	462.0	60.0	28.0	Los Angeles	New York	Crude oil	11,700	8,491	6,065
Canadian Cruiser	12	16.30	13	9.07	13	16.05	13	16.05	British	Canadian Government	430.0	56.0	17.6	Adelaide	Montreal	General	3,200	7,680	5,494
Patuxent[11]			13	11.22	13	19.26			American	U. S. Navy	156.0	24.0		Balboa	Cristobal				
Santa Elisa	14	5.00	14	10.15	14	16.30	14	20.35	American	Grace Line	360.3	51.7	25.0	Talcahuano	New York	General[12]	4,161	5,957	4,325
Gymeric	14	18.45	15	6.55	15	14.29	15	20.00	British	Andrew Weir & Co	419.2	54.6	26.0	San Francisco	London	Gasoline	8,543	6,501	4,459
Heathfield	14	19.00	15	7.37	15	15.25	15	15.25	British	Woods, Lylor & Brown	399.4	52.3	24.6	Portland	Montreal	Lumber[13]	6,000	5,804	4,045
Lebec	15	3.30	15	8.25	15	17.25	15	17.25	American	General Petroleum Corp	435.0	52.2	26.8	San Pedro	Philadelphia	Crude oil	9,160	7,432	5,060
Orita	15	9.00	15	12.10	15	18.43	16	6.10	British	Pacific Steam Navigation Co	485.4	58.2	25.0	Talcahuano	Liverpool	General[14]	3,336	9,936	6,561
Persian Prince	15	18.10	16	6.56	16	14.25	16	15.55	British	Prince Line	405.0	53.0	26.0	Vancouver	Havre	General	7,725	5,842	4,061
Laurel Branch	15	17.30	16	7.44	16	15.37	16	18.15	British	F. & W. Ritson	360.2	46.0	22.6	Corral	Liverpool	General	5,222	4,182	3,147
Commercial Treveller	15	16.35	16	8.19	16	16.35	16	17.50	American	Moore and MacCormack	380.3	53.1	25.0	Vancouver	New York	General[15]	6,897	5,657	4,247
F. J. Luckenbach	16	.01	16	8.32	16	15.43	16	15.43	American	Luckenbach Line	446.0	56.0	23.0	Portland	New Orleans	General	3,800	8,508	6,179
Dean Emery	16	2.00	16	9.40	16	17.47	16	17.47	American	Pan-American Pet. S. S. Co	429.3	59.2	28.0	Los Angeles	New Orleans	Crude oil	11,213	7,709	5,517
Mina Brea	15	17.05	16	9.59	16	18.30			British	Imperial Oil Co	359.7	49.2	24.6	Talara	Habana	Fuel oil	6,000	4,437	2,717
Argon	16	6.48	16	10.40	16	19.00	16	19.00	American	Standard Transportation Co	436.6	56.2	26.5	San Pedro	New York	Crude oil	9,701	7,386	5,137

[11] Barge No. 11. [12] Copper, nitrate, and general. [13] Deck load, lumber, 1,020. [14] General and South American produce. [15] Deck load, 600,000 board feet lumber.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Merope	16	12.30	17	7.02	17	15.00	17	15.00	French	Cie. Auxiliare de Nav	425.8	56.7	27.5	San Francisco.	Havre	Bulk gasoline	9,200	7,080	4,909
Santa Veronica.	16	13.00	17	8.00	17	15.25	17	15.25	American	Argonaut Steamship Co	251.0	43.6	25.0	Portland	Boston	(16)	3,230	2,823	1,740
John D. Archbold	16	15.00	17	8.43	17	17.42	17	17.42	American	Standard Oil Co. of N. J	554.9	75.3	30.10	San Pedro	New York	Calif. crude oil	21,500	14,785	10,312
John D. Rockefeller	17	9.45	17	9.58	17	18.44	17	18.44	American	Standard Oil Co. of N. J	458.3	60.0	26.6	San Pedro	New York	Crude oil	10,388	8,633	6,314
Nordlys	17	13.00	17	14.08	17	22.16	17	23.25	Danish	Norden Steamship Co	362.0	51.5	24.0	Antofagasta	New York	Nitrate[17]	6,286	4,932	3,468
Steel Scientist	18	1.00	18	7.57	18	15.05	18	15.05	American	Isthmian Steamship Lines	424.2	56.2	23.6	Bellingham	New York	General, lumber[18]	1,732	7,611	5,454
Paul Luckenbach	18	1.15	18	8.52	18	16.35	18	16.35	American	Luckenbach Line	471.1	59.2	23.4	Portland	New York	General	7,000	9,027	6,539
James McGee	18	10.45	18	12.06	18	20.00	18	20.00	American	Standard Oil Co. of N. J	499.1	68.2	29.6	San Pedro	New York	Crude petroleum	15,000	10,958	8,063
David McKelvy	18	11.00	18	12.28	18	21.40	19	6.20	American	Tide Water Oil Co	430.0	59.2	27.0	Los Angeles	New York	Crude oil	10,600	7,629	5,393
Walter Jennings	19	9.00	19	9.51	19	17.45	19	17.45	American	Standard Oil Co. of N. J	499.2	68.0	31.0	San Pedro	New York	Crude oil	16,000	11,038	7,995
Honduras	19	13.30	19	14.25	19	22.36	20	10.18	French	French Line	389.9	51.3	26.5	Valparaiso	Rotterdam	Nitrate[19]	7,010	6,020	4,363
Cerro Azul	18	23.15	19	15.09	19	23.27	19	23.27	American	Huasteca Petroleum Co	498.0	65.0	28.9	San Pedro	New Orleans	Crude oil	13,600	9,398	6,453

[16] Refined copper and fir lumber. [17] Nitrate and copper ore. [18] Steel, 1,732 tons; lumber 1,919,419 board feet. [19] Nitrate, cocao, corozo.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
May 13	Abangarez	United Fruit Co	New Orleans via Habana.	May 13	Pastores	United Fruit Co	New York via Habana.
May 13	Pastores	United Fruit Co	Port Limon.	May 13	Reina Maria Cristina.	Spanish Line	Savanilla.
May 13	Cristobal	Panama Railroad Steamship Line	New York via Haiti.	May 14	Abangarez	United Fruit Co	Bocas.
May 15	San Benito	United Fruit Co	Boston via Habana.	May 16	Ulua	United Fruit Co	Port Limon.
May 15	Ulua	United Fruit Co	New York via Habana.	May 16	San Benito	United Fruit Co	Boston via wayports.
May 15	Leon XIII	Spanish Line	Barcelona via wayports.	May 17	Carrillo	United Fruit Co	Colombia.
May 15	Orion[20]	U. S. Navy	Hampton Roads.	May 17	Cartago	United Fruit Co	New Orleans via wayports.
May 16	Cartago	United Fruit Co	New Orleans via Habana.	May 17	Sixaola	United Fruit Co	New York via Kingston.
May 16	Carrillo	United Fruit Co	New York via Kingston.	May 17	Abangarez	United Fruit Co	New Orleans.
May 17	Sixaola	United Fruit Co	Colombia.	May 18	Orion[20]	U. S. Navy	Hampton Roads.
May 17	Abangarez	United Fruit Co	Bocas.				

[20] Collier.

PORT OF BALBOA.

May 14	Talamanca	United Fruit Co	La Palma.	May 17	Depere	General Steamship Corp	Tacoma.
May 17	Depere	General Steamship Corp	Antofagasta.	May 18	Coalinga	Union Oil Co. of California	Los Angeles.
May 17	Coalinga	Union Oil Co. of California	Port San Luis.				

* Other than ships passing through the Canal.

From the Admiral of the United States Fleet.

The following letter to the Governor of The Panama Canal from the Admiral in command of the United States Fleet is an expression of appreciation of the Canal forces. The letter was misplaced in the handling of a miscellany of business at the time, and publication has been delayed. Under date of March 29 the Governor addressed a letter of appreciation to the Canal employees for their successful handling of the Fleet as well as of the heavy commercial traffic, and it is a pleasure to him to inform them of this simultaneous expression on the part of the commander-in-chief of the Fleet:

U. S. S. *Pennsylvania*,
BALBOA, C. Z., March 29, 1923.

Hon. J. J. Morrow, Governor, Panama Canal Zone,
Balboa, Canal Zone.

MY DEAR GOVERNOR: Before leaving the Canal Zone, I wish to tender to you my sincere thanks for the hospitality, cordiality and close cooperation that has been accorded the Fleet by yourself and the officials of the Canal Zone.

I venture to offer my compliments on the high efficiency of the operating forces of the Canal. The transits of the Scouting Fleet through the Canal have been accomplished in such a manner as to elicit my highest admiration.

We shall leave here with an increased pride in our country and countrymen because of what has been accomplished at Panama.

With best wishes for continued success, I am,

Faithfully,

HILARY P. JONES, *Admiral, U. S. Navy,*
Commander-in-Chief, U. S. Fleet.

Notice to Mariners.—Shoal, Buenaventura River, Colombia.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 19, 1923.

Capt. F. C. Dellegar, steamship *Del Rosa*, reports that at 12.20 p. m., December 8, 1922, his vessel, drawing 22 feet, grounded in Buenaventura River, approximately Lat. 3° 50′ 15″ N., Long. 77° 08′ 00″ W., on bearings: Point Arena, 40° 30′: Point Limones, 124° 30′.

Soundings taken showed 3 fathoms, coarse sand and gravel. At time of grounding tide was at half ebb; mean rise and fall, 10 feet.

JAY J. MORROW,
Governor.

Measurement of Vessels.

THE PANAMA CANAL, MARINE DIVISION,
BALBOA HEIGHTS, C. Z., May 14, 1923.

MEMORANDUM FOR ALL STEAMSHIP AGENTS:

1. Your attention is invited to a recent amplifying interpretation by the Commissioner of Navigation of Article 25, Part 1, "Measurement of Vessels" (United States Rules) which, though not retroactive, will be applied at once in deriving United States equivalent net tonnages as a factor for Panama Canal tolls.

2. Referring specifically to the qualifications for exemptions from measurement of forecastles, bridges and poops through tonnage openings and their *temporary* closures, the ruling states "holes in, or attachments to, bulkhead (except angle stiffeners, channel bars, etc., on the inside or edges thereof for taking hook bolts, cross pieces and shifting boards) indicating permanent means of closing tonnage openings, are not permitted."

3. Accordingly, exemptions from measurement under the United States Rules will be disallowed on all vessels arriving for transit with (*a*) the presence of *holes in* the bulkhead plating; (*b*) the presence of *cleats* attached to the bulkhead plating; (*c*) stud bolts welded into, or bolts screwed through, the bulkhead plating; (*d*) hook

bolts passing *through* bulkhead, or hinged doors when tonnage openings have been cut in latter.

4. Under a former ruling it should also be noted that the use of *both* plates, held in place by hook bolts grasping angular stiffeners at the sides of the openings, *and* shifting boards in channel bars are sufficient cause for disallowing exemptions.

5. All other specifications and regulations in Article 25, Part 1, "Measurement of Vessels," will be uniformly and impartially applied as heretofore.

A. W. HINDS,
Chairman, Board of Admeasurement.

"Balboa" Makes Five Transits During April.

The small steamer *Balboa*, owned by the Compañiá Costanera Colombia de Transportes, made 5 transits through the Canal during the month of April, which is believed to be a record for number of transits during a calendar month for a commercial vessel.

The *Balboa* is engaged in the Colombian intercoastal trade, calling at Cartagena and Puerto Colombia on the Atlantic coast, and Tumaco and Buenaventura on the Pacific coast, with stops also at the terminal ports of the Canal. On her 5 trips during April, she carried an aggregate cargo of 1,593 long tons, and paid $2,019.60 in tolls.

Munson-McCormick Line.

The Nautical Gazette reports that a consolidation has been effected of the intercoastal service of the Munson Steamship Company of New York, and the new line of the McCormick Intercoastal Steamship Company, of San Francisco, under the name Munson-McCormick Line. The combination is to conduct a fortnightly service with 7 steamers, 5 of which are being furnished by the Munson Line and 2 by the McCormick interests.

The 2 vessels to be contributed by the McCormick interests are former Shipping Board carriers, viz., the *Apus*, which has been renamed the *Charles R. McCormick;* and the *Argus*, which has been renamed the *Sydney M. Haupeman*. Presumbaly, the Munson Line will contribute the following 5 steamers, viz., *Mundale*, *Mundelta*, *Munindies*, *Munrio*, and *Munsomo*, which have been operating in the intercoastal trade for some time.

Ports of call will be Seattle, Portland, San Francisco, and Los Angeles on the Pacific, and Baltimore and New York on the Atlantic.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending May 20, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Acajutla	Pacific Steam Navigation Co	May 16	May 16	.....	6
Coalinga	Union Oil Co	May 17	May 18	10,000	.....
Corinto	Pacific Mail Steamship Co	May 18	May 18	.....	1
Laura C. Hall	Pacific Metals Transp. Corp	May 19	May 20	23	.....
Alvarado	Pacific Steam Navigation Co	May 19	May 20	1	.....
Gold Shell	Gold Shell Steamship Co	May 19	May 20	7,659	.....

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Use of Tugs to Assist Merchant Ships in Culebra Cut.

The following is quoted from a recent memorandum of the Marine Superintendent, outlining the policy as to use of tugs to assist commercial vessels in Culebra cut:

'It rests on the judgment of Canal pilots whether a tug shall be taken to assist poor handling vessels in the Cut. By the time southbound ships have arrived at Gatun or northbound ships at Miraflores, pilots will know whether assistance of a tug in the Cut is necessary. The presence or absence of a supplementary rudder will naturally have its proper weight with the pilot in deciding whether a tug is a necessity. The policy of the Canal is to save all the money possible for ships *consistent with safety.*'

Inspection of Persons Returning to Cristobal from Side Trip to Bocas del Toro or Almirante.

In order to facilitate the speedy entry of vessels, in case a ship has been granted pratique by the Canal Quarantine Service at Cristobal, and returns from Almirante or Bocas del Toro, Panama, within one week, reinspection will not be made of any person who was passed on the first inspection, unless especially indicated by some condition on board the vessel or at the ports of departure.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective May 21, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.25
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.27
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.24
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m., and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Official Circulars.

Sales of Material.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 21, 1923.

CIRCULAR No. 630-10:

Paragraph 9 of Circular No. 630-8, dated July 13, 1922, is hereby amended to read as follows:

9. If the value of sales in any case, except sales to shipping, exceeds $500, prior authority from the Governor must be obtained. All sales, except to shipping, in excess of $250, made without prior authority, shall be reported monthly to the Governor.

JAY J. MORROW,
Governor.

Guava Road.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 21, 1923.

To all concerned—The thoroughfare, recently constructed, which connects Bolivar Highway and Randolph Road shall be known as Guava Road.

Previous circulars giving names to streets and roads in the Canal Zone are supplemented accordingly.

JAY J. MORROW,
Governor.

Sale of Surplus Material and Equipment.

The Panama Canal offers for sale, by direct purchase at moderate prices, a quantity of telephones, telephone ringers and bells, bank check writers and protectors, small tools and other miscellaneous articles of general utility. These articles may be inspected at the Obsolete Section of the General Storehouse, Balboa, and purchased through the office of the General Storekeeper. Detailed information with prices may be secured by telephone by calling Balboa No. 120.

Sale of Oil Drums.

The Panama Canal offers for sale 300 drums which have been used for handling crude oil, larvacide, etc., at a price of $1 each, without surcharge, f. o. b. Cristobal Storehouse, where these drums are located. Arrangements for purchase may be made with the Storekeeper, Supply Department, Cristobal, or the General Storekeeper, Balboa.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.. .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... 1.20

   Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.
From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometric comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges $6 for the trip, the others $10. The several services together afford about 5 transits of the Canal each way every week.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., May 30, 1923. No. 42.

New Record for Day's Traffic Through the Panama Canal.

A new record for number of transits, net tonnage, cargo tonnage, and tolls for a day's traffic was established May 25, 1923. Twenty-five commercial vessels transited the Canal that day and the tolls aggregated $136,604.77. This exceeds by approximately $38,000.00 the previous record for tolls. A comparison with the previous high day's traffic of commercial ships shows the following:

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Cargo. tonnage.
March 10, 1923	21	109,953	$98,327.38	111,970
May 25, 1923	25	145,382	136,604.77	153,075

The following shows the detail of the northbound and southbound traffic of May 25 by directions:

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Cargo. tonnage.
Pacific to Atlantic	10	67,754	$67,790.60	89,180
Atlantic to Pacific	15	77,628	68,814.17	63,895
Totals	25	145,382	136,604.77	153,075

Passage of the "Samaria" on Cruise Around the World.

The passenger steamer *Samaria* of the Cunard Steamship Company passed through the Canal on May 25, with 255 passengers completing a cruise around the world under the management of Thos. Cook and Son. The party had sailed from New York eastward on January 24, with approximately 385 passengers, mostly from the United States. Returning from Asia, via Honolulu, the *Samaria* called at San Francisco, where a number of the party disembarked, leaving 255 aboard to complete the trip to New York by way of the Canal. In addition, the vessel brought 4 passengers from San Francisco to disembark at the Canal.

This was the fourth 'round-the-world cruise to pass through the Canal. The preceding ones were on the *Laconia*, November 29, 1922; the *Resolute*, on January 16; and the *Empress of France*, on January 30. It is reported that 5 such cruises are planned for next season.

The *Samaria* is a vessel of 19,602 gross and 11,866 net tons, registry measurement, 601 feet in length by 73 feet beam. She carried a crew of 412. The tolls for her passage through the Canal were $13,181.25. The tolls on the 4 vessels which made cruises around the world aggregated $47,695.00.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 26, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Frederic R. Kellogg	19	21.00	20	6.20	20	15.19	20	16.31	American	Pan-American Pet. & Transp. Co.	425.8	57.0	19.9	New Orleans	Los Angeles	General, asphalt.	202	7,178	4,963
Tekoa	20	0.46	20	7.25	20	16.15	20	17.07	British	New Zealand Shipping Co	460.6	62.8	29.0	Liverpool	Auckland	General	7,789	10,259	7,092
Lewis Luckenbach	20	6.28	20	7.53	20	17.04	20	18.00	American	Luckenbach Line	496.0	68.2	28.9	Boston	Seattle	General	11,580	11,487	8,762
Belfast Maru	20	8.05	20	9.35	20	17.54	21	2.39	Japanese	Kabushiki Kisen Kawasaki	405.0	53.0	24.0	Glasgow	Antofagasta	Coke	5,100	7,043	5,077
Olaf L. Kongsted	19	15.15	20	10.55	20	18.39	21	16.20	Danish	Triton Steamship Co	325.0	47.0	17.7	New Orleans	Talcahuano	General	2,024	3,304	2,339
Richconcal	20	12.50	20	12.55	20	19.31	20	20.40	American	Beacon Oil Co	435.0	56.0	19.0	Boston	Los Angeles	Ballast		7,481	5,119
Madison	20	18.37	21	6.40	21	16.28	22	11.59	American	Archibold M. Ostorm	428.9	47.7	29.0	New Orleans	Seattle	General	5,261	5,129	3,251
Agwismith	20	18.42	21	7.25	21	16.40	21	20.51	American	Atlantic Gulf & W. I. S. S. Co.	499.9	68.1	19.0	New York	Los Angeles	Ballast		10,600	7,447
Nevadan	21	0.30	21	7.30	21	17.30	21	19.40	American	American-Hawaiian Line	368.6	55.2	26.0	Jacksonville	Los Angeles	General	6,000	5,671	3,627
Agwipond	21	6.20	21	8.50	21	18.48	22	1.12	American	Atlantic Gulf & W. I. S. S. Co.	468.3	62.7	19.0	Baltimore	Los Angeles	Ballast		9,810	7,018
Liss	21	6.40	21	9.15	21	19.27	21	23 25	Norwegian	Arthur W. Mathersen	400.2	53.0	21.9	Christiania	Los Angeles	Ballast		6,147	4,066
Scottish Minstrel	21	7.45	21	10.05	21	20.16	21	21.26	British	Anglo-Saxon Petroleum Co	425.3	57.0	21.7	Lisbon	Los Angeles	Ballast		7,123	4,962
Notre Dame de Fourviere	4-27	7.05	21	12.30	21	21.08	22	13.34	French	Cie. de Navigation Mixte	440.0	58.0	25.1	Port Arthur	Shanghai	General	8,189	8,043	5,454
Edward L. Doheny, Jr.	21	15.40	22	6.08	22	14.21	22	15.34	American	Pan-American Pet. & Transp. Co.	467.6	62.7	22.0	New Orleans	Los Angeles	Ballast		9,423	6,989
Alkmaar	20	23.00	22	7.20	22	14.30	22	21.58	Dutch	Royal Netherlands W. I. Mail	447.0	62.0	19.0	Hamburg	Corral	General	4,864	9,505	6,644
Sicania	21	11.02	22	7.35	22	15.53	22	17.03	Italian	La Veloce Line	338.9	46.2	18.7	Genoa	Valparaiso	General	600	4,500	3,523
Lena Luckenbach	21	18.25	22	7.55	22	16.28	22	17.27	American	Luckenbach Line	425.0	53.8	29.6	New Orleans	Los Angeles	General	9,084	7,217	5,295
Utacarbon	21	20.35	22	8.35	22	16.46	22	17.47	American	Union Oil Co	435.0	56.0	21.0	Baltimore	Los Angeles	Ballast		7,481	5,195
Swiftlight	21	20.50	22	9.05	22	17.17	22	23.16	American	Swiftsure Oil Co	464.0	60.0	20.0	Philadelphia	Los Angeles	Ballast		8,473	6,050
Fred W. Weller	22	6.20	22	9.57	22	17.40	22	18.45	American	Standard Oil Co	500.0	68.0	19.0	Baltimore	Los Angeles	Ballast		10,928	7,710
President Harrison	22	6.35	22	10.41	22	18.30	23	7.50	American	Swayne & Hoyt (S. B.)	502.1	62.2	24.3	Buenos Aires	Seattle	(2)		4,572	12,031	8,495
Borga[1]	22	1.50	22	11.04	22	19.21	23	13.40	Norwegian	Peter Olsen	362.4	51.4	22.7	Christiania	San Francisco	General	6,300	5,242	3,706
E. T. Bedford	22	12.17	22	12.20	22	20.21	22	21.27	American	Standard Oil Co	499.0	68.0	17.10	Charleston	Los Angeles	Ballast		11,009	7,967
Cathwood	22	12.55	22	13.00	22	21.05	22	22.30	American	Union Oil Co	435.0	56.0	22.0	Fall River	Los Angeles	Ballast		7,481	5,194
Eagle	22	7.48	22	13.19	22	21.55	22	22.58	American	Standard Transportation Co	410.0	56.0	27.3	Baltimore	Seattle	General	9,139	8,243	6,266
Manitowoc	22	15.04	23	6 23	23	14.05	23	15.14	American	Moore & McCormack	390.1	52.1	24.0	Baltimore	San Francisco	General	5,580	4,991	3,544
Alaska Maru	23	0.40	23	7.25	23	15.03	23	17.30	Japanese	Osaka Shosen Kaisha	420.0	56.0	27.2	New York	Singapore	General	7,750	7,775	5,641
Tuxpanoil	23	2.10	23	7.35	23	15.47	23	21.40	American	McAllister Bros. (S. B.)	431.0	59.2	19 0	Philadelphia	Los Angeles	Ballast		7,862	4,979
Hugoton	23	4.30	23	8.50	23	16.52	23	20.55	American	C. D. Mallory	434.8	56 2	16.6	New York	Los Angeles	Ballast		7,429	5,141
W. F. Burdell	23	6.35	23	10 50	23	17.45	24	10.32	American	Pure Oil Co	435.0	56.0	21.0	Mobile	Los Angeles	Ballast		7,434	5,093

[1] Motor ship.

[2] Hides, coffee, and fertilizer.

Victolite	23	10.28	23	11.20	23	18.45	24	.43	British	Imperial Oil Co	500.4	68.7	23.0	Montreal	Los Angeles	Ballast		11,049	7,732
Chuky	23	6.24	23	12.05	23	19.54	23	20.55	British	Sheridan Steamship Co	440.8	56.0	26.10	Tampico	Tocopilla	Crude oil	9,618	7,691	4,723
Santa Ana	23	19.27	24	6.12	24	13.43	24	16.35	American	Grace Line	360.2	51.6	22.8	New York	Talcahuano	General	2,193	5,776	4,081
Iwatesan Maru	24	3.35	24	6.50	24	14.45	24	16.50	Japanese	Mitsui Bussan Kaisha	385.0	51.0	27.6	New York	Kobe	Gen., steel rails	7,580	5,989	4,229
Steel Trader	24	5.33	24	7.30	24	15.46	24	21.16	American	U. S. Steel Products Co	424.2	56.2	25.10	New York	San Diego	General	8,430	7,611	5,450
Lehigh	24	8.05	24	8.20	24	16.24	24	23.00	American	North Atlantic & Western (S.B.)	390.0	54.2	21.0	Portland	Seattle	General, steel	5,187	6,142	4,276
Cardena	24	4.02	24	9.20	24	16.33	25	9.45	British	Union Steamship Co	226.8	37.0	12.0	Glasgow	Vancouver	Ballast		1,667	1,012
Alvarado	19	7.13	24	9.26	24	17.37	24	22.45	British	Pacific Steam Navigation Co	303.0	43.0	17.3	New York	Guayaquil	General	1,070	2,844	1,748
Atto	24	11.05	24	11.15	24	17.46	24	18.50	German	Roland Line	360.0	51.0	23.0	Hamburg	Corral	General	3,600	4,805	3,400
Huasco	20	17.17	24	11.43	24	18.27	24	21.14	Chilean	Chilean Line	379.7	44.3	20.8	Cristobal	Valparaiso	General	780	4,552	3,182
City of Bagdad	24	11.50	24	12.05	24	19.35	24	21.16	British	Montgomery & Workman	470.3	58.0	27.0	New York	Freemantle	General	5,830	8,497	5,984
Nora	24	12.20	24	12.30	24	20.21	24	21.26	American	Grace Line	467.6	62.7	20.0	New York	Los Angeles	Ballast		9,918	7,468
Californian [3]	24	12.40	24	12.50	24	21.16	24	22.15	American	American-Hawaiian Line	445.1	59.8	24.0	Boston	Los Angeles	General	8,000	8,567	6,020
Remnera	24	13.50	24	14.10	24	22.00	25	17.30	British	New Zealand Shipping Co	485.0	62.3	22.6	London	Auckland	General	3,000	11,717	8,751
D. G. Scofield	24	19.30	25	6.14	25	13.51	25	15.05	American	Standard Oil Co	439.5	58.0	20.0	Philadelphia	San Francisco	Ballast		8,698	6,040
Fantome II [4]	24	17.00	25	6.20	25	14.32			British	A. E. Guinness	167.2	28.8	13.0	Pto. Colombia	Galapagos Is	Ballast		585	457
Santa Rosa	24	22.35	25	7.35	25	15.49	25	19.26	American	Grace Line	404.0	53.0	28.4	Baltimore	Los Angeles	General, steel	7,545	6,754	4,780
Lompoc	25	2.37	25	7.35	25	16.36	25	18.09	British	C. T. Bowring & Co	440.0	55.6	20.0	Tampico	Los Angeles	Ballast		7,496	5,311
Julia Luckenbach	25	5.30	25	8.00	25	17.30	25	18.40	American	Luckenbach Line	438.0	57.0	28.0	Boston	Seattle	General	8,174	8,543	6,402
W. C. Teagle	25	5.32	25	8.30	25	18.53	25	19.54	American	Standard Oil Co	499.1	68.2	19.0	New York	Los Angeles	Ballast		10,991	7,908
City of Winchester	25	5.45	25	9.05	25	19.46	25	20.50	British	Ellerman Hall Line	456.0	58.0	24.0	New York	Melbourne	General	9,604	8,783	6,603
Fairfield City	25	6.25	25	10.00	25	20.30	25	21.36	American	U. S. Steel Products Co	442.2	56.0	25.11	Philadelphia	Yokohama	General	7,935	7,611	5,450
Howra	25	6.50	25	10.19	25	21.32	28	16.50	British	British India Steam Nav. Co	412.2	55.0	28.4	Newcastle	Melbourne	General	7,942	7,377	5,232
Matinicock	25	6.52	25	11.58	25	22.14	25	23.30	American	Standard Oil Co	459.1	60.0	26.0	New York	Los Angeles	Ballast		8,171	5,882
British Workman	25	11.02	25	12.04	25	23.00	26	3.05	British	British Tanker Co	440.4	57.0	20.0	Grainsmouth	San Francisco	Ballast		7,707	5,028
Monticello	25	11.03	25	12.18	25	24.00	26	1.15	American	American-Hawaiian Line	468.5	58.5	28.4	Baltimore	Seattle	General	11,000	7,975	5,412
Eelbeck	24	15.08	25	12.55	26	0.50	26	1.57	American	Barber Line (S. B.)	401.7	54.8	25.6	New York	Shanghai	General	7,848	6,928	5,103
Saint Louis	25	2.25	25	13.15	26	1.30	26	2.25	French	French Line	389.0	50.0	16.0	Havre	Valparaiso	General	718	5,857	4,166
Fort Augusta	25	6.10	25	13.30	26	2.15	26	15.19	British	Commonwealth & Dom. Line	380.0	49.0	22.6	London	Freemantle	General	3,129	5,192	3,854
Robert Dollar	25	19.35	26	6.22	26	13.48	26	18.45	British	Dollar Line	523.5	65.7	29.0	New York	San Francisco	(5)	8,429	12,370	8,885
Epsom	25	20.27	26	6.48	26	14.31	26	16.40	British	Watts, Watts & Co	370.0	50.0	18.8	Norfolk	Pisagua	Coal	2,034	4,945	3,468
A. C. Bedford	26	4.00	26	7.30	26	14.45	26	15.57	American	Standard Oil Co	500.0	68.0	17.0	New York	Los Angeles	Ballast		10,896	7,615
J. W. Van Dyke	26	5.27	26	8.10	26	15.35	26	16.55	American	Atlantic Refining Co	435.0	56.0	19.6	Philadelphia	Los Angeles	Ballast		7,460	5,215
Huguenot	24	9.40	26	9.18	26	16.36	26	17.47	American	McAllister Bros. (S. B.)	434.8	56.2	22.10	Pensacola	Los Angeles	Ballast		7,394	5,099
Gothic Prince	26	9.25	26	9.45	26	17.10	27	11.10	British	Prince Line, Ltd	448.1	57.2	24.9	New York	Shanghai	General	7,817	9,082	6,701
York City	26	4.03	26	10.35	26	18.07	28	9.40	British	St. Just Steamship Co	411.8	55.0	27.0	Newcastle	San Francisco	General	9,000	7,038	5,166
Shreveport	26	11.28	26	11.50	26	18.50	27	2.00	American	Walker & Daly (S. B.)	435.0	56.0	20.5	New York	Los Angeles	Ballast		7,411	5,103
Vermont	25	21.25	26	12.02	26	19.40	26	20.40	French	French Line	400.3	52.3	19.0	Havre	San Francisco	General	1,760		
Colombia	25	14.38	26	12.07	26	21.00	27	13.15	American	Pacific Mail Steamship Co	380.0	48.8	21.8	New York	San Francisco	General	2,707	6,015	4,281

[3] Motor ship. [4] Yacht. [5] Kerosene, gasoline, and general.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

F. Q. Barstow	19	17.00	20	6.55	20	15.33	20	15.33	American	Standard Oil Co	500.0	68.2	30.0	Los Angeles	New York	Crude oil	14,719	10,530	7,604
British Light	19	20.00	20	7.48	20	16.10	20	18.03	British	B. Franklin, Ltd	419.0	54.3	25.6	Los Angeles	Tampico	Crude oil	8,559	6,763	4,314
Swiftscout	19	19.15	20	7.48	20	16.40	20	16.40	American	C. D. Mallory & Co	464.0	60.2	27.0	Los Angeles	Fall River	Crude oil	12,000	8,479	6,104

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Siam[6]	20	5.00	20	8.45	20	17.43	20	23.20	Danish	East Asiatic Co.	410.0	55.0	25.4	Seattle	Copenhagen	General	7,174	7,068	5,303
Huasco	20	6.00	20	9.58	20	17.07	24	11.43	Chilean	Chilean Line	380.0	44.0	21.0	Talcahuano	Cristobal	General	27	4,552	3,182
Cerro Ebano	20	6.10	20	10.15	20	18.03	20	18.00	American	Huasteca Petroleum Co.	480.5	66.0	28.8	Los Angeles	New Orleans	Crude oil	13,300	9,389	6,453
San Fabian	20	5.30	20	11.24	20	19.38	20	19.38	British	Anglo-Mexican Petroleum Co.	530.5	69.4	31.6	Los Angeles	Tuxpan	Crude oil	18,000	13,554	9,614
Moerdijk	20	.....	20	11.30	20	20.20	21	0.28	Dutch	Holland-American Line	472.0	63.0	26.0	Vancouver	Rotterdam	General	9,495	9,165	7,056
Imlay	20	6.00	20	12.02	20	21.55	20	21.55	American	Walker and Daly	425.8	57.0	24.6	Los Angeles	Fall River	Crude oil	9,990	7,217	4,958
Floridian	20	2.00	20	12.59	20	20.31	20	20.31	American	American-Hawaiian Line	415.0	53.7	24.5	San Francisco	New York	General	5,737	7,273	5,105
Tulsagas	19	24.00	20	15.10	20	23.17	20	23.17	American	McAllister Bros.	431.0	59.3	26.0	Los Angeles	New York	Crude oil	10,000	7,817	4,961
Ruahine	20	7.00	21	7.10	21	14.34	21	21.10	British	New Zealand Shipping Co.	480.1	60.1	27.0	Wellington	London	General, frozen	5,401	11,027	8,188
Lillian Luckenbach	20	14.45	21	7.49	21	14.13	21	15.13	American	Luckenbach Line	448.9	60.2	25.0	San Francisco	New York	General	6,000	9,294	6,865
George Allen	20	15.37	21	8.49	21	16.03	21	16.13	American	Garland Steamship Corporation	383.3	51.2	23.8	Seattle	New York	(8)	5,789	6,224	4,465
Lobos	20	15.30	21	8.59	21	16.35	23	14.49	British	Pacific Steam Navigation Co.	404.7	54.2	24.0	Talcahuano	London	General	6,849	7,151	4,756
Archer	20	21.00	21	9.47	21	17.42	21	17.42	American	Barber Line	440.0	56.0	28.0	Cebu	New York	Sugar, general	9,453	8,315	6,100
Lubeck	21	5.00	21	9.59	21	19.13	22	1.05	German	Kosmos Line	351.1	14.2	22.1	Champerico	Hamburg	(9)	3,578	4,429	2,753
District of Columbia	20	18.40	21	12.13	21	19.50	21	19.50	American	Walker and Daly	431.0	59.2	25.0	Los Angeles	Fall River	Crude oil	10,500	8,097	5,362
Houma	20	19.15	21	13.41	21	22.32	21	22.32	American	McAllister Bros.	434.8	56.2	27.3	Los Angeles	New York	Standard oil	10,537	7,425	5,168
Almagro	21	4.35	22	7.04	22	14.30	22	23.20	British	Pacific Steam Navigation Co.	303.0	43.0	26.0	Guayaquil	New York	(10)	1,585	2,878	1,714
Talamanca	14	3.45	22	7.05	22	16.00	22	16.00	Panaman	United Fruit Co.	58.3	16.0	9.0	La Palma	Cristobal	Ballast	.....	40	27
Isis	21	22.00	22	7.57	22	15.55	22	16.00	German	Kosmos Line	376.0	51.0	24.6	Corral	Hamburg	General	6,530	5,788	4,027
Royal Arrow	22	5.15	22	8.57	22	17.10	22	17.10	American	Standard Transportation Co.	467.6	62.7	28.0	Los Angeles	New York	Gasoline	11,003	9,699	6,895
Davanger	22	6.30	22	9.09	22	17.25	22	17.25	Norwegian	Anglo-Saxon Petroleum Co.	425.0	56.8	26.6	Los Angeles	Tampico	Crude oil	9,760	7,125	4,916
Venezuela	22	6.30	22	12.01	22	19.15	23	21.07	American	Pacific Mail Steamship Co.	380.0	48.7	24.9	San Francisco	New York	General, coffee	3,300	6,033	4,353
Point Lobos	22	7.00	22	14.03	22	20.25	22	20.25	American	Swayne & Hoyt, Inc.	289.0	44.0	18.0	Anacortes	New Orleans	General	2,500	2,894	1,967
Panaman	22	15.11	23	11.46	23	18.20	23	18.20	American	American-Hawaiian Line	407.7	53.7	21.0	Seattle	Boston	General	5,300	7,098	5,029
Venezuela	23	11.50	23	12.43	23	19.40	27	18.12	Italian	La Veloce Steamship Line	420.0	51.6	21.6	Valparaiso	Genoa	(11)	650	7,622	5,051
Connie[7]	.....	.....	23	12.48	23	20.50	.....	.....	American	G. S. Edwards & F. McKinn	23.0	5.9	3.0	Balboa	Cristobal	.....	.....	3	1
Ipswich	23	12.29	23	14.03	23	20.50	23	20.50	American	United American Lines	400.7	54.0	22.6	Seattle	New Orleans	General	5,884	6,616	4,614
Bethore	22	21.48	23	14.39	24	17.18	24	18.01	American	Ore Steamship Co.	554.3	72.2	32.6	Cruz Grande	New York	Iron ore	19,600	15,476	4,354
Clement Smith	23	12.00	24	7.28	24	18.22	24	18.22	American	Oil Transport Co.	431.0	59.2	27.3	Los Angeles	Fall River	Crude oil	(12)	8,097	5,263
Aconcagua	24	5.27	24	8.53	24	17.50	25	2.35	Chilean	Chilean Line	422.8	56.2	26.6	Valparaiso	New York	General	2,182	7,758	4,705
Habana Maru	24	6.35	24	9.03	24	18.40	24	19.38	Japanese	Osaka Shosen Kaisha	407.2	50.8	22.0	Singapore	New York	General	5,840	6,234	4,500
Byron D. Benson	23	23.50	24	10.15	24	19.30	24	19.45	American	Tidewater Oil Co.	465.4	60.2	28.0	Los Angeles	New York	Crude oil, bulk	12,000	8,546	6,095
Standard	24	11.00	24	12.10	24	21.07	24	21.07	American	Standard Oil Co.	523.8	69.0	30.6	Los Angeles	New York	Crude oil	16,546	12,171	8,673
W. S. Rheem	24	11.40	24	12.25	24	22.17	24	22.17	American	Standard Oil Co.	500.0	68.2	29.6	Los Angeles	New York	Crude oil	14,900	11,224	7,860
J. A. Moffett, Jr.	24	20.00	25	7.44	25	17.25	25	17.25	American	Standard Oil Co.	499.2	68.1	31.0	Los Angeles	New York	Fuel oil	15,000	11,036	7,995
Chattanooga City	24	21.00	25	8.00	25	17.53	25	17.53	American	Isthmian Lines	424.2	56.2	22.0	(13)	Boston	General, lumber	6,183	7,611	5,450

[6] Motor ship. [7] Launch. [8] Lumber and copper bullion; deck load 389,740 board feet lumber. [9] Coffee, sugar, hides, honey, deck load, wood 75 tons. [10] Cocoa, coffee, hides, etc. [11] Copper ore, nitrates, ivory nuts. [12] 75,635 barrels. [13] U. S. Pacific ports.

San Gregorio	24	21.55	25	8.41	25	18.40	25	18.40	British	Eagle Oil Transport Co	527.0	66.0	29.0	Los Angeles	Tampico	Crude oil	14,532	12,136	9,042
Hoven	24	21.30	25	9.52	25	19.49	26	5.00	American	Walker & Daly	453.0	56.0	26.10	Los Angeles	New York	Crude oil	9,600	7,426	5,144
Samaria	25	5.21	25	1.54	25	20.15	26	6.23	British	Cunard Steamship Co	601.0	73.0	25.2	Yokohama	New York	Ballast	.....	21,672	15,675
Sabine Sun	25	11.00	25	11.55	25	21.04	25	23.49	American	Sun Oil Co	429.3	59.2	28.0	Los Angeles	Chester	Crude oil	10,500	7,621	5,782
Samuel Q. Brown	25	3.00	25	12.50	25	22.07	25	22.07	American	Tidewater Oil Co	424.4	58.2	25.6	Los Angeles	New York	Crude oil	10,000	7,333	5,246
Astronomer	25	12.00	25	14.27	25	23.15	25	23.15	British	Harrison Line	482.7	58.2	27.6	San Francisco	London	General	10,600	8,898	6,334
Carolyn	25	12.30	25	15.10	26	.40	26	12.25	American	A. H. Bull & Co	313.6	46.1	18.0	Grays Harbor	New York	Lumber	(14)	3,644	2,566
W. E. Hutton	25	9.00	25	15.49	26	11.15	26	14.55	American	Pure Oil Steamship Co	435.0	56.0	25.0	Los Angeles	Boston	Crude oil	10,300	7,481	5,120
Bethelridge	25	6.30	26	7.04	26	16.05	26	18.25	American	Walker & Daly	431.0	59.2	23.10	Los Angeles	New York	Fuel oil	9,323	7,819	5,007
Ansaldo San Giorgio I	25	7.30	26	8.10	26	16.10	26	16.10	Italian	Saturno, Otello	385.0	49.0	16.6	Valparaiso	Genoa	General	1,990	5,657	3,974
Tiger	26	7.30	26	8.55	26	16.37	26	16.37	American	Standard Oil Co	410.0	56.0	25.6	Seattle	New York	General, lumber	7,800	8,243	6,312

[14] 2,095,715 board feet lumber, lathes, shingles.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
May 20	Atenas	United Fruit Co	New Orleans via Habana.	May 20	Ulua	United Fruit Co	New York via Habana.
May 20	Amassia	Hamburg-American Line	Hamburg.	May 21	Atenas	United Fruit Co	Bocas.
May 20	Ulua	United Fruit Co	Port Limon.	May 21	Amassia	Hamburg-American Line	Port Limon.
May 22	Camden	United Fruit Co	Tampico.	May 23	San Bruno	United Fruit Co	Boston via Limon.
May 22	San Bruno	United Fruit Co	Boston via Habana.	May 23	Toloa	United Fruit Co	Port Limon.
May 22	Toloa	United Fruit Co	New York via Habana.	May 24	Camden	United Fruit Co	Tampico.
May 22	Perou	French Line	Havre via wayports.	May 24	Tivives	United Fruit Co	Colombia.
May 22	Asian	Leyland Line	Liverpool via wayports.	May 24	Carrillo	United Fruit Co	New York via Kingston.
May 22	St. Mihiel [15]	U. S. Army	New York.	May 24	Heredia	United Fruit Co	New Orleans via wayports
May 22	Heredia	United Fruit Co	New Orleans via Habana.	May 24	Asian	Leyland Line	Palo Alto.
May 23	Ulysses	Panama Railroad Steamship Line	Norfolk.	May 25	Perou	French Line	Havre via wayports.
May 23	Tivives	United Fruit Co	New York via Kingston.	May 25	Atenas	United Fruit Co	New Orleans.
May 24	Carrillo	United Fruit Co	Colombia.	May 26	Camito	Elders & Fyffes Line	Bristol via Bermuda.
May 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.	May 26	St. Mihiel [15]	U. S. Army	New York.
May 24	Atenas	United Fruit Co	Bocas.				
May 26	Camito	Elders & Fyffes Line	Port Limon.				

[15] Transport.

PORT OF BALBOA.

May 19	Laura C. Hall	Pacific Metals Corporation	Buenaventura.	May 23	Laura C. Hall	Pacific Metals Corporation	Buenaventura.
May 21	Marinula	Anglo-Saxon Petroleum Co	Martinez, Col.	May 23	Marinula	Anglo-Saxon Petroleum Co	Los Angeles.
May 23	San Lamberto	Anglo-Mexican Petroleum Co	Los Angeles.	May 25	San Lamberto	Anglo-Mexican Petroleum Co	Los Angeles.

* Other than ships passing through the Canal.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending May 26, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Olaf L. Konsted	New Orleans & S. A. S. S. Line	.....	May 20	.....	114
Ulua	United Fruit Co	May 20	May 20	15	30
Siam	Danish East Asiatic Co	May 20	May 20	(1)	163
Atenas	United Fruit Co	May 20	May 21	41	141
Amassia	Hamburg-American Line	May 20	May 21	106	179
Alkmaar	Royal Netherlands W. I. Mail	May 20	May 22	144	(2)
Huasco	Chilean Line	May 20	May 24	29	781
Sicania	Italian Line	May 21	May 22	94	(3)
Lubeck	Kosmos Line	May 21	May 21	127	2
Lobos	Pacific Steam Navigation Co	May 21	May 23	(1)	346
Camden	United Fruit Co	May 22	May 24	9,227	(3)
Borga	Norway-Pacific Line	May 22	May 22	180	(3)
Almagro	Pacific Steam Navigation Co	May 22	May 22	343	(3)
Venezuela	Pacific Mail Steamship Co	May 22	May 23	1,302	213
San Bruno	United Fruit Co	May 22	May 23	12	39
Toloa	United Fruit Co	May 22	May 23	148	45
Asian	Leyland Line	May 22	May 24	811	(3)
Heredia	United Fruit Co	May 22	May 24	1,098	89
Perou	French Line	May 22	May 25	170	613
Tivives	United Fruit Co	May 23	May 24	304	126
Santa Ana	Grace Line	May 23	May 24	102	132
Venezuela	Italian Line	May 23	.....	6	.....
Alvarado	Pacific Steam Navigation Co	.....	May 24	.....	576
Carrillo	United Fruit Co	May 24	May 24	½	36
Aconcagua	Chilean Line	May 24	May 25	30	7
Atenas	United Fruit Co	May 24	May 25	½	6
Gen. W. C. Gorgas	Panama Railroad Steamship Line	May 24	.....	1,421	.....
Huguenot	McAllister Bros	May 24	May 26	9,100	(3)
Colombia	Pacific Mail Steamship Co	May 25	May 26	187	607
Saint Louis	French Line	May 25	May 25	58	(3)
Vermont	French Line	May 25	May 26	70	52
Camito	Elders & Fyffes, Ltd	May 26	May 26	9	(3)

[1] No cargo discharged. [2] 1 package [3] No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending May 26, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Olaf L. Kongsted	New Orleans & S. A. S. S. Line	May 20	May 20	134	.....
Archer	United States Shipping Board	May 21	May 21	2	.....
Venezuela	Pacific Mail Steamship Co	May 22	May 22	57	.....
Almagro	Pacific Steam Navigation Co	May 21	May 22	.....	222
Laura C. Hall	Pacific Metals Transportation Co	May 23	May 23	.....	66
Borga	Peter Olsen	May 22	May 23	397	33
Alvarado	Pacific Steam Navigation Co	May 24	May 24	1	27
Santa Ana	Grace Line	May 24	May 24	.....	9
Montrolite	Imperial Oil Co	May 14	May 25	.....	10
Ansaldo I	National Navigation Society	May 25	May 26	202	.....
Colombia	Pacific Mail Steamship Co	May 26	May 26	.....	5

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended May 26:

Steamships *Australind*, weld seams in combustion chamber to boilers; *Mineola*, braze auxiliary steam line, copper pipe; *W. F. Burdell*, repair ice machine; *Borga*, machine and fit bearing caps (2) for main engine; *Sidney M. Hauptman*, repair 3 feed water heater coils; *Swiftwind*, rebore H. P. cylinder, manufacture bull rings, and clean up piston rods; assemble; *Volunteer*, open up main turbine reduction gear case; dress pinions and journals; install new bearings; clean out oiling system; reassemble; repair blower engine; oil coolers; steam superheater and general repairs to ice machine and refrigerating system; *Dryden*, dock and undock; repair main engine, H. P. cylinder, crossheads, and brasses; dynamo engine, crank shaft bearings and commutator shaft; remove old tail shaft and install new shaft and propeller; repair No. 2 port winch, anchor winch and perform miscellaneous calking

and riveting; *Mina Brea*, repair fresh water pump, main injection pipe, feed pipe, main heater pipes; minor repairs to brickwork on boiler, and steam for firing up; *Montrolite*, dock and undock; clean and paint underwater body and top side; repack stern gland; open up H. P. cylinder and valve chest for examination of repairs; repair revolution counters; check alignment of thrust and crank shafts; line up steering engine steam control; test and repair coils in center heater; repair feed water pump; repair fuel oil pumps, cargo pumps, fresh water pump, air pump, sanitary pump, No. 1 winch, windlass, miscellaneous gauges, ice machine and refrigerator system; grease extractor; manufacture miscellaneous tools; repair main steam and exhaust, and auxiliary piping, fuel oil piping, sanitary system, boiler mountings and boiler lagging; calk trimming tanks; repair ventilators; miscellaneous calking and welding in summer tanks and bulwarks; repair ladders and davits; calk rivets and seams on shell plating and bilge keel; renew zincs; repair sea valves, anchor chains, and miscellaneous minor repairs all through the ship; tug *Gorgona*, dock and undock; clean and paint underwater body; re-align H. P. crosshead guides on main engine; remove old propeller and install spare; examine stern bushing; repair bilge pump; renew hull zincs; repair sea valves, boiler mountings and furnish steam for firing up; Submarines *R–24*, dock and undock; paint bottom and perform regular routine docking repairs; *R–25*, dock and undock; paint bottom and perform regular routine docking repairs; barge *No. 131*, renew bad order deck plates; test all tanks; straighten hopper brasses and framing; renew bad order fenders, hopper sheathing and line up winding machinery; install landing frame on deck for dippers; clean and paint bottom.

PREVIOUSLY REPORTED.

Steamship *Colon*, dock and undock; reboilering, general overhauling and reconditioning.

The following vessels were at the Cristobal shops for repairs during the week ended May 28:

Barge *No. 106*, (Dredging Division), remove all dumping gear from decks and hoppers; install 6 channels and attach hopper doors; install angles on deck and hoppers; remove sheathing, strong backs and strong back braces; install 20 angle stanchions; stage, clean and paint bottom; drydock, scale and paint tanks and hoppers; test tanks; supply boat *No. 1*, (Panama Agencies), dock and undock; overhaul engines; install pump and piping for oil cargo; repair stem and make oil tight; install fore and aft bulkhead and athwartship bulkhead; alter hatchway; straighten rails; stage, clean and paint bottom; scrape and paint deck houses and decks; steamships *Cauca*, fit cap on bilge pump; fit cap and socket on pump stanchion; make bonnet rings for feed pump; repair hand lamps and tools; fit cap and socket to sounding pipe; install new plugs in boilers; clear scupper; make 6 washers for manhole doors; make 2 hatch tarpaulins; *Ulysses*, renew air port guards; calk main deck; repair pipe; dress tools; make thrust bars; rebrick ovens. U. S. S. *Gen. Frank M. Coxe*, repair indicator gear; install hanger on steering rod; connect 2 oil liners; renew 4 screen windows; make ice box; drill and tap flange; glaze windows; steamships *Toloa*, *Borga*, *Perou*, *W. F. Burdell*, *Huasco–V–2*, *Huguenot*, *Eelbeck*, *Venezuela*, and U. S. submarine *O–15*, minor repairs.

Quarantine Lifted.

THE PANAMA CANAL, HEALTH DEPARTMENT,
BALBOA HEIGHTS, C. Z., May 24, 1923.

To all concerned.—Information having been received from the Bureau of Animal Industry as to the probable nonexistence of foot and mouth disease in Guatemala, order of March 14, 1923, imposing quarantine against horses, mules, etc., hay, grain, straw, etc., from the Republics of Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica, is hereby canceled.

W. C. RUCKER,
Chief Quarantine Officer.

Approved:
JAY J. MORROW,
Governor.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Telegraphic Communication.

Telegraphic communication between the Isthmus and the rest of the world is handled by the All America Cables, Inc., the Naval radio system, and the radio system of the United Fruit Company.

The Naval radio system is used for Government communication with the United States; and for messages to or from ships, on both Government and commercial business. The only land areas to which it handles commercial messages are those sections of the Republic of Panama contiguous with the outlying radio stations at La Palma and Puerto Obaldia, stations in Colombia reached through the radio station at Cartagena, the radio stations in the Caribbean area operated by the United Fruit Company, and the government stations at Bluefields, Nicaragua, and Belize, British Honduras.

With the rest of the world, away from the Isthmus, the means of telegraphic communication are the system of the All America Cables and its connections, and the United Fruit Company's radio system.

The Naval Radio will also accept messages in connection with the United Fruit Company's stations at Bocas del Toro, R. P., Port Limon, Costa Rica; as well as messages for Bluefields, Nicaragua, and Belize, (British Government Station).

LAND TELEGRAPH ON THE ISTHMUS.

For both the Naval radio service and the cable lines, messages may be filed in any office of the Panama Railroad's railway telegraphic system or of the National Telegraphs of the Republic of Panama. When this is done the local telegraph service collects a charge for local transmission which is in addition to the regular radio or cable rates as levied on messages filed at the radio stations or cable offices. This charge is at the rate of 2 cents a word for the first 10 words and 1 cent a word for additional words above 10, the minimum being 20 cents for any message so handled. If a message be filed through the Panama Railroad or Panama National telegraph offices, their transmission charges must be reckoned as in addition to the radio and cable rates as given below.

NAVAL RADIO RATES.

The rates on commercial business sent or received through the Naval radio stations (Balboa, Colon and Cape Mala) are as follows:

Point.	Isthmian radio station charge.	Charge of receiving radio station.	Total for radio.	Total for messages of 5, 10, 15, and 20 words, if filed through Panama Railroad or Panama National telegraph office.			
				5 words.	*10 words.*	*15 words.*	*20 words.*
Government ships	$0.06	$0.04	$0.10	$0.70	$1.20	$1.75	$2.30
Ships other than U. S. Government including Shipping Board and Panama Railroad ships	.12	.08	.20	1.20	2.20	3.25	4.30
United Fruit Company's radio stations	.06	.13	.19	1.15	2.10	3.10	4.10
Cartagena, Colombia	.10	.10	.20	1.20	2.20	3.25	4.30
La Palma and Puerto Obaldia, R. P.	.02	.02	.04	.40	.60	.85	1.10

ALL AMERICA CABLE RATES.

The rates in effect at present for transmission by the cables of the All America Cables, Inc., are as follows. In general, the rates from the

points named to the Canal Zone are the same as the rates from the Canal Zone to the points:

Rate to—	Per word.
New York City	$0.30
Galveston City (via Galveston)	.35
Louisiana and Texas (via Galveston)	.35
Albama	.36
Arizona	.42
Arkansas	.39
Alaska	.67
Alberta (Canada)	.42
Ascension Island (Atlantic Ocean)	1.14
Australia	1.06
Austria	.70
Argentina:	
Buenos Aires, Rosario, Mendoza, Junin, and Villa Mercedes	.40
Other places	.48
Aruba	1.45
Azores (Atlantic Ocean) (*via* New York)	.65
Belgium	.63
Bermuda (*via* New York)	.66
British Columbia (Canada)	.42
Bulgaria and eastern Roumelia	.79
Bolivia:	
Corcoro and La Paz	.39
Other places	.44
Riberalta and Trinidad	.64
Brazil:	
Amazon River (first zone)	.90
Amazon River (second zone)	1.20
Acre District (*via* Belem)	1.10
Acre District (*via* Manaos)	1.50
Rio Janeiro, Santos, and Sas Paulo	.50
Other places (except Amazon River and Acre district)	.60
British West Indies:	
Jamaica	.59
Barbados	.64
Antigua, British Guiana, Dominica, Grenada, Montserrat, St. Christopher, St. Kitts, St. Lucia, St. Vincent, Trinidad	.76
Tobago	.65
Chile:	
Iquique, Antofagasta, Santiago, Valparaiso, Los Andes, Arica, Tacna	.30
Punta Arenas (*via* Santiago and wireless)	.42
Other places	.34
Cuba:	
Santiago and Fisherman's Point	.25
Other places	.30
Costa Rica:	
Limon and San Jose	.15
All other places	.20
Colombia:	
Buenaventura and Cartagena	.20
St. Andrews Island (*via* Cartagena and wireless)	.38
Other places	.35
Curacao	1.33
California	.42
Colorado	.39
Connecticut	.33
Ceylon (Indian Ocean)	1.06
China:	
Via Pacific	1.40
Via Atlantic	1.63
Macao (*via* Atlantic)	1.67
Macao (*via* Pacific)	1.45
Cochin China (French)	1.39
Denmark	.75
Delaware	.33
District of Columbia	.33
	.16½
Dominican Republic (*via* wireless)	.47
Dominican Republic, (*via* Cuba) all places	.85
Dutch Guiana	1.47
Egypt (Alexandria)	.90
Esthonia	.83
Ecuador:	
Guayaquil	.25
Santa Elena, Esmeraldas	.25
Other places	.30
Finland	.80

Rate to—	Per word.
Formosa Island	$1.48
France	.62
Florida	.39
French Guiana	1.42
Germany	.65
Gibraltar	.76
Great Britain	.60
Greece and Island	.75
Guam Island	1.17
Georgia	.36
Guatemala:	
San Jose	.20
Other places	.25
Guadeloupe (*via* Haiti)	1.00
Via W. I. and P.	1.02
Hawaiian Islands (Honolulu)	.77
Holland	.65
Hungary	.73
Honduras (all places)	.25
Honduras (British), Belize	.42
Haiti:	
Cape Haitien, Mole, St. Nicholas, Port-au-Prince	.65
Other places	.70
Via F. P. and wireless	.50
Iceland	.68
India	1.06
Italy	.66
Idaho	42
Illinois	.36
Indiana	.36
Iowa	.39
Indian Territory	.39
Japan (normal route)	1.48
Via Atlantic	1.71
Via San Francisco and wireless	1.27
Jap or Yap (Caroline Island)	1.48
Kansas	.39
Kentucky	.36
Luxemburg	.67
Louisiana (*via* New York)	.39
Les Saintes	1.00
Madagascar	1.18
Malta	.72
Manitoba (Canada)	.42
Mauritius Island	1.14
Mesopotamia	1.26
Morocco (Tangier)	.76
Maine	.33
Maryland	.33
Massachusetts	.33
Michigan	.36
Minnesota	.39
Mississippi	.36
Missouri	.39
Montana	.39
Mexico:	
Salina Cruz, Vera Cruz, Mexico City, Puerto Mexico	.30
All other places	.33
Marie Galante	1.00
Martinique	1.00
Nassau, Bahama Island	.65
New Brunswick, Canada	.36
Newfoundland	.44
New Zealand	.98
Norway	.75
Nebraska	.39
Nevada	.42
New Hampshire	.33
New Jersey	.33
New Mexico	.39
New York (State)	.33
North Carolina	.36
North Dakota	.39
Nicaragua:	
San Juan del Sur	.15
All other places	.20
Nova Scotia (Canada)	.36
Ontario (Canada)	.36
Ohio	.36

Rate to—	Per word.	Rate to—	Per word.
Oklahoma	$0.39	Rhode Island	$0.33
Oregon	.42	Servia	.80
Persia	1.34	Spain:	
Philippine Islands (Manila)	1.32	*Via* Havre	.73
Other islands	1.50	Direct route	.75
Poland	.72	Sweden	.78
Portugal	.75	Switzerland	.67
Pennsylvania	.33	Syria	.88
Peru:		South Carolina	.36
Paita, Callao, Lima, and Trujillo	.25	South Dakota	.39
Other places	.30	Salvador, La Libertad	.20
Iquitos (*via* wireless)	.40	All other places	.25
Porto Rico:		St. Croix and St. Thomas	.72
Ponce, San Juan	.30	*Via* F. P. and wireless	.45
Other places	.33	Tasmania	1.06
All Porto Rico (*via* F. P. and wireless)	.45	Turkey in Europe	.73
Paraguay (all places)	.48	Turkey in Asia	.83
Quebec (Canada)	.36	Tennessee	.36
Roumania	.73	Texas (*via* New York)	.39
Russia	.83	Utah	.42
Venezuela (*via* Cuba)	1.15	Uruguay, Montevideo	.40
Via Trinidad and wireless	1.01	Other places	.47
Washington (State)	.42	Falkland Island (Port Stanley, *via* wireless)	.70
West Virginia	.36	Fox Bay (*via* wireless)	.97
Wisconsin	.36	Vermont	.33
Wyoming	.39	Virginia	.36

DEFERRED AND WEEK-END LETTER RATES.

In connection with the rates quoted above for the All America Cables, the manager on the Isthmus has furnished the following regarding rates on deferred messages and week-end letters:

There is at present in force from the Isthmus of Panama, a deferred cable rate which is just half of the ordinary commercial cable rate. This rate is in force to practically all parts of the world including Central and South America. However, in the case of the latter the deferred messages will only be accepted at that rate when the message is destined to an office of this company. Messages destined for interior points where we have no office the full commercial rate is applied. Full paid commercial traffic naturally has precedence over deferred rate traffic. The latter, however, in no instance can be delayed for more than 24 hours, after which time it takes equal turn with full paid commercial traffic.

Weekend letters are accepted for the United States, Canada, Mexico and Europe,

The rate to New York City and New Orleans is $2 for 20 words, or less, and 10 cents for each additional word.

To Canada, the rate is the same as to New York, plus 1½ cents per word.

To Mexico, $2.50 for 25 words, or less, plus 10 cents for each additional word.

To Europe, $4.50 for 20 words, or less, plus 15 cents for each additional word. The European letters are cabled to New York only and from there they are posted to the point of destination.

The weekend letters may be filed at any time during the week but are not transmitted until Saturday, and are prepared for delivery with the opening of business Monday morning. Registered code addresses to our own offices may be used. To points beyond our own offices they are accepted at sender's risk. They must bear the post office address and will be mailed from our nearest terminal office.

Deferred and weekend letter messages must be written in plain language of the country of origin or destination, code not being admissible. Numbers, except in addresses, must be written in words. The use of more than one language in the same message is not permitted.

Hydrography of Past Dry Season.

The Chief Hydrographer has made the following summary of water conditions during the past dry season, which began about January 4 and ended about May 4, 1923. The season was of shorter duration than the average dry season, but from a water supply standpoint it ranks as fourth driest in the past 12 years:

The Chagres River discharge was 11 per cent below the 22-year 4-months dry season average, or 1,137 c. f. s. against a mean of 1,272 c. f. s. The minimum dis-

charge of the Chagres for the 4 months was 414 c. f. s., on April 16th, 17th and 19th; the maximum discharge for the same period was 5,604 c. f. s., on January 11th.

Gatun Lake fell to elevation 82.69 feet during the 4-month period and continued to recede to a minimum elevation of 82.58 feet on May 9, from which date the recovery of storage has been slowly following. Had it been possible to save the 1,432 billion cubic feet of water which passed over the spillway during January, 1923, the minimum elevation on May 9 would have been 82.89 feet.

Increase in useful losses, mostly due to increase in Canal traffic, amounted to 2,108 billion cubic feet more water for the 4-months' dry season than for the 4 months preceding the dry season. This is equal to .5 foot over Gatun Lake. In other words, had there been no increase in Canal traffic, the Lake on May 9 would have been at approximately 83.36 feet.

A loss in storage of 19.99 billion cubic feet occurred during the dry season, compared with 11.65 billion cubic feet for last year, and 24.00 billion cubic feet for 1920.

Little special effort was made for the conservation of water by crossfilling at the locks or making electric power at the Miraflores Steam Plant.

Evaporation from the Lake's surface was 24.02 inches and amounted to 9.2 billion cubic feet during the 4 dry months.

The water necessary for useful losses was 25.5 billion cubic feet, compared with 21.7 billion cubic feet for last year and 25.7 billion cubic feet in 1921. The hydroelectric station was developing more power in 1921 than in the last 2 years.

The increase in uses for Canal traffic amounted to approximately the saving in water uses for power that had been effected over the 1921 uses. In 1921, during the 4 dry months, the average number of lockages at Gatun and Pedro Miguel was 1,138; in 1922 for the same period it was 933, and in 1923 the number had increased to 1,572. During the 4 dry months of 1921 the ratio of water used for power to water used for lockages was 2.2 to 1, and in 1923 it had decreased to 1.2 to 1.

Consumption in lockages (11.1 billion cubic feet) in the past dry season exceeded for the first time the quantity lost through evaporation (9.2 billion cubic feet in the season).

The following data show the net inflow into Gatun Lake for the dry season months since the formation of the Lake:

NET YIELD IN C. F. S.[1]—DRY SEASONS OF RECORD.

	1912.[2]	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	Average for month.
December[3]	2,690	5,335	4,307	7,010	7,673	4,986	9,218	2,158	4,939	3,698	7,649	7,842	5,625
January	400	2,583	1,739	2,570	1,863	1,111	3,023	1,541	769	1,216	8,641	2,363	2,318
February	271	1,298	744	4,207	1,320	139	431	73	−287	951	1,482	698	944
March	−392	678	167	823	698	−182	36	−50	−385	−121	190	−84	135
April	−363	567	308	5,400	1,076	447	1,119	3,250	−706	244	210	−185	947
May	2,771	4,992	3,219	6,111	4,063	4,635	7,964	4,352	583	2,109	4,605	.....	4,128

[1] Net yield is the total yield minus evaporation on Gatun Lake. [2] Estimated. [3] Decembers are of previous years, *i. e.*, December, 1911, is in 1912 dry season.

It is of interest to note that under conditions of dryest season to date (1920), if no water had been used in the generation of electricity the dry season supply would have been sufficient for 29 lockages daily, enough to handle 35 ships through the Canal every day.

Yellow Fever Reported in Colombia.

Information was received on May 24 by the Chief Quarantine Officer of the Panama Canal of a case of yellow fever at Bucaramanga on the Magdalena River in northern Colombia. The diagnosis was confirmed by Dr. Joseph H. White of the United States Public Health Service, member of a committee sent out by the International Health Board to investigate rumors of yellow fever in that region. The other members of the committee were Dr. O. L. Pothier of New Orleans and Dr. Wenceslao Bareja, National Health Officer of Ecuador.

In consequence of this report the Panama Canal has established a quarantine against all ports in northern Colombia.

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Panama	.....	.....	.....	May 9	May 12	May 16.
Cristobal[1]	May 5	May 10	May 13	May 19	May 22	May 26.
Gen. W. C. Gorgas	May 15	May 21	May 24	May 29	June 1	June 6.
Panama	May 25	May 30	June 2	June 9	June 12	June 16.
Cristobal[1]	June 5	June 10	June 13	June 19	June 22	June 26.
Gen. W. C. Gorgas	June 15	June 21	June 24	June 29	July 2	July 7.
Panama	June 25	June 30	July 3	July 9	July 12	July 16.
Cristobal[1]	July 5	July 10	July 13	July 19	July 22	July 26.
Gen. W. C. Gorgas	July 14	July 20	July 23	July 29	Aug. 1	Aug. 6.
Panama	July 25	July 30	Aug. 12	Aug. 9	Aug. 12	Aug. 16.
Cristobal[1]	Aug. 4	Aug. 9	Aug. 12	Aug. 19	Aug. 22	Aug. 26.
Gen. W. C. Gorgas	Aug. 15	Aug. 21	Aug. 24	Aug. 29	Sept. 1	Sept. 6.
Panama	Aug. 25	Aug. 30	Sept. 2	Sept. 9	Sept. 12	Sept. 16.

Steamers sail at 3 p. m. from Pier 67, North River, foot of West 27th St., New York.
[1] Sails 3 p. m. from Pier 65, North River, foot of west 25th Street.
(Daylight saving time.)

WEST COAST SERVICE.

In addition, a regular freight service is maintained direct to Buenaventura and Ecuadorian ports by the steamships *General O. H. Ernst* and the *General G. W. Goethals*, and other steamers.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective May 21, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.25
Brass, sheet, average	Lb.	.31
Bronze, Tobin, average	Lb.	.27
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.24
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.09
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Official Circular.

Appointment.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 25, 1923.

To all concerned.—Effective May 28, 1923, Lieut. Col. Will L. Pyles, Medical Corps, U. S. A., is appointed Superintendent, Ancon Hospital, vice Colonel Louis T. Hess, Medical Corps, U. S. A., relieved from duty with The Panama Canal. Lieutenant Colonel Pyles will report direct to the Chief Health Officer.

JAY J. MORROW,
Governor.

Sale of Surplus Material and Equipment.

The Panama Canal offers for sale, by direct purchase at moderate prices, a quantity of telephones, telephone ringers and bells, bank check writers and protectors, small tools and other miscellaneous articles of general utility. These articles may be inspected at the Obsolete Section of the General Storehouse, Balboa, and purchased through the office of the General Storekeeper. Detailed information with prices may be secured by telephone by calling Balboa No. 120.

Postal Address of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., June 6, 1923. No. 43.

Traffic for First Eleven Months of Fiscal Year.

The number of commercial transits, the aggregate net tonnage, cargo tonnage, and tolls, for the first 11 months of the fiscal year ending June 30, 1923, are already considerably in excess of the full 12 months' traffic for any previous fiscal year.

Traffic for the first 11 months of the current fiscal year, as compared with last fiscal year, is shown in the following tabulation:

Month.	Number of ships.		Panama Canal net tonnage.		Cargo tonnage.		Tolls.	
	Fiscal Year.		Fiscal Year.		Fiscal Year.		Fiscal Year.	
	1922.	1923.	1922.	1923.	1922.	1923.	1922.	1923.
July	206	251	810,613	1,127,871	708,982	1,211,100	$814,503.11	$1,091,127.42
August	236	257	965,276	1,081,1[illegible]3	839,273	1,1[illegible]5,950	955,380 78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,1[illegible]8,138	892,001.51	1,[illegible]20,064.55
October	255	294	1,069,554	1,310,392	985,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,230	855,440	1,426,860	923,018.70	1,2[illegible]4,436 54
December	239	304	1,017,244	1,375,263	953,053	1,535,1[illegible]2	1,003,598.27	1,312,570.12
January	210	352	846,516	1,610,692	807,298	1,591,932	847,767 55	1,505,285.55
February	212	326	886,535	1,529,547	838,074	1,563,278	8[illegible]6,236.18	1,423,954.21
March	234	409	975,811	1,988,192	960,089	1,940,928	956,725.76	1,827,718.44
April	239	404	974,833	2,007,690	1,046,047	2,187,115	953,253.11	1,878,938 15
May	243	419	1,032,816	2,129,074	1,158,507	2,262,116	1,015,057.37	1,972,216.04
11 months	2,508	3,550	10,446,746	16,570,544	9,897,432	17,468,462	10,265,541.99	15,610,155.77

Traffic for the first 11 months of the current fiscal year, shows a gain over the corresponding 11 months of last fiscal year of approximately 29 per cent in number of transits, 59 per cent in net tonnage, 77 per cent in cargo tonnage, and 52 per cent in tolls.

Canal Transits and Tolls for May Highest of Record.

The number of commercial vessels transiting the Canal, and the amount of revenue therefrom collected in tolls, for the month ending May 31, 1923, exceeded that of any previous month during the operation of the Canal.

The total commercial transits during the month numbered 419, which exceeds by 10 the former record of 209 transits in March, 1923. The aggregate tolls amounted to $1,972,216.04, and exceeded by $93,277.89 the previous record month (April, 1923).

The detail of the month's traffic, segregated between eastbound and westbound traffic, was as follows:

	No. of transits.	Panama Canal net tonnage.	Tolls.	Tons of cargo.[1]
Atlantic to Pacific	229	1,139,661	$986,949.06	739,444
Pacific to Atlantic	190	989,413	985,266.98	1,522,672
Total, commercial	419	2,129,074	1,972,216.04	2,262,116

[1] Approximate, subject to minor adjustments.

(Continued on page 569)

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 2, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Willfaro	26	16.37	27	6.45	27	13.35	27	18.05	American	Williams Steamship Co.	386.8	52.2	24.0	New York	Seattle	General, steel	5,959	5,684	4,113
Acasta	26	17.30	27	7.45	27	14.27	27	18.45	British	Anglo-Saxon Petroleum Co.	400.0	52.4	19.6	Cardiff	Los Angeles	Ballast	.....	6,134	4,604
Arawa	26	20.10	27	7.55	27	15.37	28	1.45	British	Shaw, Saville & Albion Co.	459.5	60.5	23.0	London	Auckland	General	4,866	10,035	7,504
Centaurus	27	7.32	27	8.40	27	16.36	27	22.20	American	Planet Steamship Co.	409.8	54.2	24.1	New York	San Francisco	General, steel	7,554	6,581	4,795
W. W. Mills	27	15.10	28	6.35	28	13.53	28	18.50	American	Pure Oil Steamship Co.	424.4	58.2	17.6	Chester	Los Angeles	Ballast	.....	7,333	5,119
Munrio	27	15.13	28	7.15	28	15.46	28	21.40	American	Munson Line	333.6	48.2	22.6	Baltimore	Los Angeles	General	5,060	4,165	3,066
Golden Gate	27	20.09	28	8.50	28	16.25	28	21.46	Norwegian	Knut Knutsen & Co.	381.5	53.1	21.6	Matanzas	Vancouver	Sugar	5,250	5,616	3,879
Cecil County	27	23.15	28	10.49	28	18.24	28	19.30	American	Walker & Daly (S. B.)	431.0	59.2	19.9	Fall River	Los Angeles	Ballast	.....	8,097	5,261
Talamanca[1]	27	.....	28	6.10	28	15.46	29	.29	Panaman	United Fruit Co.	58.3	16.0	....	Colon	Balboa	Ballast	.....	40	27
Seine Maru	28	17.55	29	6.50	29	14.23	29	15.36	Japanese	Teikoku Kisen K. K.	425.0	56.0	19.6	Norfolk	San Francisco	Ballast	.....	7,164	5,415
Winnebago	29	3.40	29	9.05	29	16.35	29	18.33	American	Winnebago Steamship Co.	360.7	48.2	25.4	Baltimore	Seattle	Coal	5,229	4,762	3,373
J. N. Pew	29	18.33	30	6.16	30	14.10	30	18.15	American	Sun Oil Co.	480.5	66.0	20.4	Philadelphia	Los Angeles	Ballast	.....	9,494	6,612
Orinoco	30	0.01	30	7.20	30	16.08	30	17.43	American	Oriental Navigation Co.	376.4	52.3	24.1	New York	Bremerton	Coal	6,785	5,455	3,902
Agwiworld	30	3.35	30	8.00	30	15.08	30	19.58	American	Atlantic Gulf & W. I. S. S. Co.	429.3	59.2	19.9	Boston	Los Angeles	Ballast	.....	7,624	5,224
Robin Adair	30	9.10	30	9.25	30	17.02	31	0.55	American	Seas Shipping Co.	424.8	55.2	23.0	Baltimore	Seattle	General, steel	8,512	7,470	5,529
Stanley Dollar	30	2.10	30	10.00	30	17.39	30	18.53	American	Dollar Line	401.4	54.0	23.8	New York	San Francisco	General	6,000	6,598	4,704
Gen. O. H. Ernst	29	0.50	30	10.05	30	18.25	31	18.00	American	Panama Railroad Steamship Line	356.4	45.3	20.8	New York	Guayaquil	General	1,799	4,503	2,764
Sudbury	30	10.05	30	10.25	30	19.15	30	23.35	American	Shawmut Steamship Co.	384.8	51.2	21.0	New Orleans	Seattle	General	6,560	5,571	4,033
Livingstone Roe	30	10.20	30	11.17	30	20.03	30	21.19	American	Standard Oil Co.	462.0	60.2	21.6	Baltimore	Los Angeles	Ballast	.....	8,491	6,065
City of Dunkirk	29	22.10	30	12.25	30	20.55	30	22.05	British	Ellerman Hall Line	420.7	54.3	25.6	New York	Shanghai	General	7,762	7,108	5,429
Eldorado	31	2.03	31	6.20	31	13.45	31	18.30	American	Western Transport Co.	245.6	42.0	17.6	New Orleans	Seattle	General	2,407	2,439	1,662
Mexico Maru	31	4.00	31	7.28	31	14.37	31	15.45	Japanese	Osaka Shosen Kaisha	400.0	51.8	25.5	Buenos Aires	Yokohama	Miscellaneous	3,678	6,067	4,230
Solana	31	4.07	31	7.55	31	15.44	31	21.59	American	Pacific Mail Steamship Co.	419.5	56.5	21.0	Fall River	Los Angeles	Ballast	.....	7,060	5,025
Mantaro	27	18.05	31	10.45	31	16.52	31	23.25	Peruvian	Peruvian Line	360.3	45.0	16.9	Cristobal	Callao	General	399	4,838	2,959
Ansaldo San Giorgio II	30	16.07	31	11.24	31	17.55	6-1	0.05	Italian	Societa Nazionale di Navigazione	391.0	52.0	15.10	Genoa	Valparaiso	General	1,108	5,591	3,975
Brielle	30	20.02	31	12.41	31	19.05	31	20.14	Dutch	Royal Netherlands W. I. Mail	402.0	58.2	20.0	Hamburg	Corral	General	3,447	7,322	5,254
Sirius	27	9.10	6-1	6.20	6-1	13.35	6-3	11.25	American	U. S. Navy	491.7	54.0	21.7	Hampton Rds.	Puget Sound	Naval cargo	2,551	.....	.....
Tsuyama Maru	6-1	3.05	1	7.15	1	15.13	1	16.35	Japanese	Nippon Yusen Kaisha	445.0	58.0	23.0	New York	Yokohama	General	5,800	7,651	5,425
Rotarian	1	8.35	1	8.45	1	16.02	1	18.32	American	Wessel Duval & Co. (S. B.)	380.3	53.1	15.6	New York	Talcahuano	Coal, general	1,602	5,660	4,059
Amasis	1	6.30	1	9.51	1	16.43	1	18.10	German	Kosmos Line	438.4	55.4	19.0	Hamburg	Corral	General	2,425	.....	.....
Cauca	27	16.15	1	11.40	1	19.01	1	21.03	British	Pacific Steam Navigation Co.	245.0	35.0	15.4	Cristobal	Champerico	General	812	1,589	1,118
Malmanger	31	22.53	1	11.55	1	17.46	1	23.30	Norwegian	Wertfal Larsen & Co.	425.1	57.0	19.6	Rotterdam	Los Angeles	Ballast	.....	7,084	4,940
G. Harrison Smith	6-1	12.45	1	13.00	1	20.44	1	21.51	British	International Petroleum Co.	550.6	72.0	25.0	New York	Los Angeles	Ballast	.....	15,476	11,102
Steel Voyager	1	13.15	1	13.25	1	21.26	1	22.26	American	Isthmian Lines	395.5	55.0	27.0	New Orleans	Manila	General	7,934	7,285	5,256

[1] Motor schooner.

Edgar F. Luckenbach..	1	13.20	1	13.35	1	22.16	1	23.20	American...	Luckenbach Line.....	425.0	57.3	30.3	Mobile.....	Los Angeles...	General.....	9,581	8,568	6,565
Harry Luckenbach.....	1	15.15	2	6.20	2	14.22	2	15.25	American...	Luckenbach Line.....	418.9	60.0	31.0	New York....	Seattle.....	General.....	9,900	9,262	6,853
Franklin K. Lane.....	1	16.42	2	7.23	2	15.07	2	16.25	American...	Pan-American Pet. & Trans. Co.	435.0	56.2	29.0	Perth Amboy.	San Francisco.	Ballast.....	.....	7,405	5,131
Calgarolite.....	1	17.18	2	8.00	2	16.00	2	17.09	British.....	Imperial Oil Co.....	463.3	60.2	8.2	Halifax.....	Talara.....	Ballast.....	.....	8,491	6,096
Peter Kerr.....	2	2.50	2	8.47	2	16.57	2	21.40	American...	Columbia Pacific S. S. Co.....	415.0	55.7	8.0	Boston.....	Everett.....	General.....	7,800	7,704	5,707
Niels Nielsen...	1	6.55	2	9.50	2	17.41	2	22.35	Norwegian..	B. Stolt Nielsen & Co.....	411.6	54.2	17.0	Newport News	Los Angeles...	Ballast.....	.....	6,623	5,062
Castle Point....	2	8.25	2	10.02	2	18.40	2	20.16	American...	Chas. R. McCormack S. S. Co..	321.7	51.0	21.0	Galveston.....	San Francisco.	Sulphur.....	3,794	.....	.....

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

I. C. White....	26	19.45	27	6.45	27	14.23	27	14.24	American...	Pan-American Petroleum Co....	429.3	59.2	26.0	Los Angeles...	New Orleans..	Crude oil.....	10,071	7,925	5,743
Sunbeam.....	27	1.15	27	8.28	27	15.40	27	15.40	American...	Sun Oil Co.....	439.3	59.2	27.9	Los Angeles...	Chester.....	Crude oil.....	10,600	7,709	5,481
Cauca.....	26	23.10	27	9.11	27	16.15	6-1	11.40	British.....	Pacific Steam Navigation Co....	246.0	35.0	16.5	Acajutla.....	Cristobal.....	General.....	1,324	1,589	1,018
Japan Arrow...	26	21.00	27	9.20	27	16.54	27	16.54	American...	Standard Transportation Co....	468.3	62.7	28.0	Los Angeles...	New York....	Crude oil.....	12,500	10,084	7,426
Tacoma.....	.....	.....	27	10.05	27	17.08	28	15.15	American...	U. S. Navy.....	292.0	44.0	18.0	Balboa.....	Cristobal.....	.....	.....	.....	.....
Mantaro.....	27	5.00	27	10.15	27	18.05	31	10.45	Peruvian...	Peruvian Line.....	367.3	46.0	19.6	Ilo.....	Cristobal.....	General.....	2,083	4,838	2,959
Durango.....	27	6.00	27	12.49	27	19.52	27	19.52	American...	C. D. Mallory & Co.....	435.0	56.0	27.6	Los Angeles...	New York....	Crude oil.....	10,619	7,642	5,274
Sussex.....	27	16.25	28	6.51	28	14.23	28	15.22	British.....	New Zealand & Federal S.S. Co.	420.0	54.0	26.0	Noumea.....	Baltimore....	General.....	6,928	7,016	5,078
Gen. G. W. Goethals.....	27	17.00	28	7.58	28	15.08	29	16.05	American...	Panama Railroad Steamship Line	353.0	48.7	20.0	Guayaquil....	Cristobal.....	General	1,175	5,226	3,617
Eurana.....	27	17.15	28	8.47	28	16.15	23	16.15	American...	Inter. Merchant Marine Co.....	419.5	56.5	26.6	Los Angeles...	New York....	Crude oil.....	9,600	6,989	4,976
Theodore Roosevelt....	28	1.30	28	9.00	28	16.55	28	16.55	Norwegian..	Norway-Pacific Line.....	450.0	55.6	28.0	San Francisco.	Christiana....	General.....	8,809	7,593	5,636
Santa Barbara.	28	1.30	28	9.45	23	17.22	28	17.22	American...	Pacific Mail Steamship Co.....	404.6	54.0	28.8	Seattle.....	Baltimore....	General.....	7,923	6,789	4,746
Albert Jeffers..	28	6.00	28	10.20	28	18.25	28	18.25	American...	Garland Steamship Corp.....	384.6	51.0	24.6	Aberdeen.....	New York....	Lumber[3].....	4,353	6,347	4,453
City of Para...	27	21.44	28	11.00	28	20.15	6-3	6.58	Panaman...	Pacific Mail Steamship Co.....	340.0	38.6	23.6	Champerico...	Cristobal.....	General.....	2,135	3,739	2,459
Santa Luisa....	28	6.30	28	11.08	28	21.40	23	22.25	American...	Grace Line.....	360.2	51.6	22.11	Talcahuano...	New York....	General.....	4,306	5,694	3,975
Mariposa[2].....	.....	.....	28	.....	28	12.33	.....	.....	American...	Chas. W. Norris.....	26.0	6.4	3.0	Pedro Miguel..	Gamboa.....	.....	.....	.....	.....
Steel Ore.....	28	10.30	28	13.35	28	22.30	28	22.30	American...	Ore Steamship Corp.....	550.3	72.2	31.6	Cruz Grande..	Baltimore....	Steel ore.....	20,000	15,551	4,297
U. S. S. Pyro...	26	16.00	29	6.58	29	13.05	29	15.45	American...	U. S. Navy.....	459.8	69.1	20.0	San Diego....	Hampton Rds.	(4)	494	.....	.....
Anten.....	28	14.30	29	8.11	29	16.08	29	16.08	Swedish...	Transatlantic Steamship Co.....	420.0	54.0	19.6	Makatea.....	Cartagena....	Phosphates.....	8,800	6,938	5,106
Carolinian.....	29	9.00	29	9.48	29	17.23	29	17.23	American...	Garland Steamship Corp.....	359.0	50.2	24.0	Victoria.....	New York....	Lumber.....	4,000	4,642	3,510
Kennta.....	29	10.20	29	11.40	29	19.45	29	20.50	British....	Pacific Steam Navigation Co....	412.0	52.0	24.0	Puerto Montt.	Liverpool.....	General.....	6,195	6,420	4,704
William Rockefeller.....	29	10.40	29	13.02	29	21.43	29	21.43	American...	Standard Oil Co. of N. J.....	554.9	75.3	31.4	Los Angeles...	New York....	Crude oil.....	20,000	14,785	10,313
British Star....	29	6.30	30	6.55	30	14.48	30	14.48	British.....	Anglo-Saxon Petroleum Co.....	429.9	57.0	25.6	Los Angeles...	Tampico.....	Crude oil.....	9,650	7,174	4,964
Agwimex.....	30	4.00	30	8.12	30	15.55	30	18.19	American...	Ward Line.....	480.5	56.0	27.0	Los Angeles...	Philadelphia...	Crude oil.....	14,000	9,394	6,306
Georgian.....	30	6.30	30	8.24	30	16.30	30	16.30	American...	American-Hawaiian Line.....	386.8	52.2	24.7	Seattle.....	Savannah....	General, lumber.	5,850	5,719	4,023
Wm. G. Warden	30	7.00	30	9.58	30	18.36	30	18.36	American...	Standard Oil Co. of N. J.....	500.0	68.2	29.9	Los Angeles...	New York....	Crude oil.....	15,800	.....	.....
Salvador.....	30	9.00	30	11.35	30	17.53	.....	.....	British.....	Pacific Steam Navigation Co....	225.0	35.4	14.6	Champerico...	Cristobal.....	General.....	651	1,270	735
Hazel Branch..	30	10.20	30	11.40	30	19.20	31	0.20	British.....	F. & W. Ritson.....	400.0	51.2	24.0	Talcahuano...	Liverpool.....	General.....	6,185	5,208	3,578
K. I. Luckenbach.....	30	.01	30	13.03	30	20.00	30	20.00	American...	Luckenbach Line.....	446.1	56.7	24.6	Seattle.....	Boston.....	General.....	5,000	8,552	6,236
Lio.....	30	2.00	30	13.20	30	23.48	31	17.07	American...	McAllister Bros.....	431.0	59.2	25.0	San Francisco.	Philadelphia...	Gasoline.....	9,486	7,817	5,082

[2] Launch.

[3] 340,590 board feet lumber (deck load).

[4] General and ammunition.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Agwibay	30	5.00	30	15.29	30	23.50	30	23.50	American	Yew York and Cuban Mail	468.3	62.7	23.0	Los Angeles	Baltimore	Crude oil	12,700	9,776	6,903
Helder	29	6.30	29	8.17	29	17.20	6-1	0.16	Dutch	Royal Netherlands W. I. Mail	372.0	50.0	19.6	Talcahuano	Liverpool	General	4,431	5,117	3,807
Edith[a]			30		30				American	L. F. Gilbert	23.3	7.5		Balboa	Pedro Miguel			4	2
M. F. Elliott	30	16.35	31	6.51	31	14.33	31	14.33	American	Standard Oil Co. of N. J.	425.0	57.2	27.0	Los Angeles	New York	Crude oil	10,684	7,481	4,946
British Chancellor	30	17.40	31	7.55	31	15.40	31	15.40	British	Anglo-Persian Oil Co.	440.0	56.0	27.0	San Francisco	Lands End[a]	Fuel oil	9,611	7,612	4,960
Commercial Spirit	31	9.15	31	10.11	31	17.00	31	17.00	American	Moore & McCormack	380.4	53.1	24.6	Tacoma	New York	General, lumber	6,250	5,659	4,137
Santa Tecla	31	8.50	31	12.49	31	19.00	31	23.22	American	Grace Line	298.6	40.0	14.6	Salaverry	New York	General	907	2,832	1,803
Cuba	30	19.50	6-1	6.56	6-1	14.16			American	Pacific Mail Steamship Co.	307.7	42.2	18.8	San Francisco	Cristobal	General	690	3,385	2,075
E. L. Doheney 3d	31	14.55	1	8.00	1	17.30	1	17.30	American	Pan-American Pet. & Trans. Co.	467.6	62.7	29.0	Los Angeles	New Orleans	Crude oil	13,183	9,666	7,034
Eburna	31	17.45	1	9.01	1	18.03	1	18.03	British	Anglo-Saxon Petroleum Co.	380.2	52.7	24.6	Los Angeles	Tampico	Crude oil	6,809	5,058	3,292
Paul Shoup	6-1	5.10	1	9.59	1	19.15	1	19.12	American	Associated Oil Co.	424.4	58.2	29.2	Los Angeles	Fall River	Crude oil	11,100	7,333	5,119
Agwilake	31	14.35	1	10.46	1	21.25	1	21.25	American	Ward Line	468.3	62 7	30.0	Los Angeles	Boston	Crude oil	12,690	9,802	6,957
Manavi	6-1	1.00	1	11.55	1	20.15			British	Pacific Steam Navigation Co.	216.0	35.1	11.4	Guayaquil	Cristobal	General	223	1,357	884
William Campion	1	17.30	2	6.51	2	13.48	2	13.48	American	Garland Steamship Corp.	384.4	51.2	24.0	Portland	New York	General	5,900	6,327	4,433
Naimes	1	18.45	2	7.57	2	15.05	2	16.00	German	Roland Line (A. G.)	330.0	45.11	12.0	San Jose	Freeport	Ballast		3,529	2,532
Lancaster	1	22.49	2	8.50	2	15.58	2	16.45	American	Argonaut Steamship Co.	434.0	57.6	26.0	Tacoma	Baltimore	General	7,409	7,943	5,872
Chinampa	2	11.30	2	9.05	2	16.55	2	16.55	American	Standard Oil Co. of N. J.	426.8	51.0	28.0	Los Angeles	New York	Crude oil	9,000	7,171	5,172
Muskogee	2	1.00	2	10.04	2	17.57	2	17.57	American	Standard Oil Co. of N. J.	451.0	58.0	27.0	Los Angeles	New York	Crude oil	9,792	7,574	5,193
Los Angeles	2	3.00	2	10.11	2	18.50	4	11.45	American	Union Oil Co. of California	435.0	56.2	29.0	Port San Luis	Cristobal	Fuel oil	10,000	7,193	4,903
Tustem	2	4.50	2	11.20	2	20.05	2	20.05	American	Atlantic Refining Co. of Phila.	425.0	57.2	28.0	Port San Luis	Philadelphia	Crude oil	9,600	7,204	4,768
Scottish Strath	2	5.00	2	12.19	2	21.22	2	22.03	British	Tanker Co., Ltd.	440.8	59.4	26.0	San Francisco	Portishead	Gasoline	8,964	7,527	5,108

[a] For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
May 27	Zacapa	United Fruit Co.	New Orleans via Habana.
May 27	Toloa	United Fruit Co.	Port Limon.
May 29	Calamares	United Fruit Co.	New York via Habana.

*DEPARTURES.

Date.	Vessel.	Line.	For—
May 27	Ulysses	Panama Railroad Steamship Line.	Norfolk.
May 27	Toloa	United Fruit Co.	New York via Habana.
May 28	Zacapa	United Fruit Co.	Bocas.

(Continued on page 572, column 2.)

(Continued from page 565)

The average number of commercial transits was 13.52 per day as compared with a daily average of 7.84 transits for the corresponding month a year ago. The average daily tolls were $63,619.87, as compared with a daily average of $32,743.79 during May, 1922.

Visit of British Cruisers.

The British cruiser *Curlew*, commanded by Captain L. S. Holbrook, R. N., arrived at Cristobal from Bermuda on Monday, June 4, and passed through the Canal to Balboa on the following day. The usual courtesy calls were exchanged, and the crew of 410 men was given shore liberty. The *Curlew* is scheduled to sail on June 8 for Vancouver, B. C., via Los Angeles.

The British cruiser *Valerian* is expected at Cristobal on Monday, June 11, and will remain until June 15, sailing then for Port Limon, Costa Rica.

New Service to Antipodes Operating Through Canal.

A new steamer service, operating between French ports and the Antipodes, via the Panama Canal, will be inaugurated by the passage of the steamer *El Kantara*, scheduled to reach Cristobal June 8.

The *El Kantara* is owned and operated by the Compagnie Des Messageries Maritimes, who announce that additional steamers will be assigned to this route with sailings at from 2 to 3 month intervals.

The new service includes the transportation of both passengers and cargo, principally between French ports. Ports of call include Dunkirk, Havre, Bordeaux, Marseilles, Point-a-Pitre, Port de France, Canal Zone, Papeete, Wellington, Westport, Noumea, and Suva. Return sailings will be via the Panama Canal route.

Passengers and cargo from Canal ports will be accepted.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending June 2, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Venezuela	Italian Line		May 27		2,841
Tolca	United Fruit Co.	May 27	May 27	(1)	75
Zacapa	United Fruit Co.	May 27	May 28	965	201
Mantaro	Peruvian Line	May 27	May 31	2,141	395
Cauca	Pacific Steam Navigation Co.	May 27	June 6	1,324	812
City of Para	Pacific Mail Steamship Co.	May 28		2,135	
Santa Luisa	Grace Line	May 28	May 28	1	3
Gen. G. W. Goethals	Panama Railroad Steamship Line.	May 28	May 29	55	(2)
Gen. O. H. Ernst	Panama Railroad Steamship Line.	May 29	May 30	23	16
Calamares	United Fruit Co.	May 29	May 30	445	356
Venezuela	Royal Netherlands W. I. Mail	May 29	May 30	219	(2)
Gen. W. C. Gorgas	Panama Railroad Steamship Line		May 29		2,778
Helder	Royal Netherlands W. I. Mail	May 29	June 1	47	669
San Blas	United Fruit Co.	May 29	May 31	1½	46
Parismina	United Fruit Co.	May 29	May 31	742	235
Metapan	United Fruit Co.	May 30	May 31	294	251
Brielle	Royal Netherlands W. I. Mail	May 30	May 31	114	6
Ansaldo San Giorgio II	Soc. Nationale di Navigazione	May 30	May 31	84	(2)
Salvador	Pacific Steam Navigation Co.	May 30		659	
Zacapa	United Fruit Co.	May 31	May 31	(1)	1
Meton	Walker & Daly (S. B.)	May 31	June 3	8,507	(2)
Santa Tecla	Grace Line	May 31	May 31	150	23
Cuba	Pacific Mail Steamship Co.	June 1		691	
Manavi	Pacific Steam Navigation Co.	June 1		232	
Panama	Panama Railroad Steamship Line	June 2		1,964	
Cerro Azul	Pan-American Petroleum Co.	June 2		5,800	
Los Angeles	Union Oil Co.	June 2		10,000	

[1] No cargo discharged. [2] No cargo laded.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended June 4:

Barge *No. 21* (Cristobal Coaling Station), drydock; stage, clean and paint bottom; renew 19 hull plates; tug *Engineer* (collision damage), repair steering gear, piping, signal apparatus, smoke stack, fire bucket rack, and forepeak tank; renew and paint superstructure; steamships *Salvador*, repair injector, pump plunger, 4 mattresses, winch valve, compresser rod, cargo hooks, and water tank; *Manavi*, repair stop valve, 18 Wier pump valves, 4 mattresses; make bolts, hooks, and hinges; renew boiler plugs and test boilers; make 2 tarpaulins; repair water tanks; U. S. Army mineplanter *Nones*, drydock; stage, and clean bottom; fit bunker plates; renew stern post knees; calk seams in hull; renew deck planking and stern frames; overhaul main engine and dynamo; repair propeller; repack condenser head; make 36 grate bars; steamships *Meton*, make balance piston and rings; repair steering engine, boiler superheater; braze pipe; make valve seats; weld crack in boiler; bush impeller; overhaul oil meter; make valve stem clamps; repair chronometer and steam-table; *Gen O. H. Ernst*, scale and cement forepeak tank; install concrete floor in storeroom; repair port hawse pipe; repair boom; calk boat deck; repair 2 lifeboats, anchor chain, and winch throttle; minor repairs to steamships *Cuba*, *Venezuela*, mineplanter *Graham*, tug *Tavernilla*, and launch *Mary B.*

Fire at Hotel Aspinwall, Taboga Island.

On the morning of June 5 a fire broke out in a storeroom adjoining the annex to the Hotel Aspinwall on Taboga Island. The storeroom, the annex and several small outhouses were completely destroyed, but the main building was saved.

The water supply on Taboga Island is always limited and was unusually low at the time of this fire, as the rainfall since the termination of the last dry season has been too light to fill the storage tanks. Mainly for this reason the efforts of the manager and employees of the hotel and the inhabitants of the village to extinguish the blaze were ineffective. Men from the U. S. S. *Galveston*, anchored off Taboguilla Island, arrived on the scene and formed a bucket brigade in time to prevent the spread of the fire to the main building. They were followed by firemen from the Balboa Station in the launch *Cone* and by the tugs *Cocoli* and *Gorgona*. A party of firemen from Panama was also rushed to the island and rendered valuable assistance.

No lives were lost in the fire, and no one was seriously injured, but there was a considerable property loss shared by The Panama Canal, owning the buildings, and by the lessee.

The Aspinwall was built originally by the French and used as a sanitarium. It was thoroughly repaired and enlarged by the Americans in the early construction days, and operated first as a convalescent hospital and later as a hotel. Since September, 1921, it has been under the management of the present lessee.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending June 2, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged.	Laded.
				Tons.	*Tons.*
Salvador	Pacific Steam Navigation Co.	May 30	May 30	5	.....
Cuba	Pacific Mail Steamship Co.	May 31	June 1	178	.....
Ansal lo San Giorgio II	Soc. Nazionale di Navigazione	May 31	May 31	34	.....
Manavi	Pacific Steam Navigation Co.	June 1	June 1	4	.....
Ling Nam	Chungwha Navigation Co.	June 1	June 2	230	11
Rosana	A. Fait & Co.	June 1	.....	206	.....

Regulating Water in Gatun Lake.

THE PANAMA CANAL, DEPARTMENT OF OPERATION AND MAINTENANCE,
BALBOA HEIGHTS, C. Z., May 31, 1923.

To all concerned.—The following schedule for maintaining Gatun Lake during the 1923 rainy season will be adhered to as closely as conditions permit:

The Lake will be allowed to fill to elevation plus 85.5 feet before any water is wasted over the spillway. This elevation should be reached not later than August.

The Lake will be held between elevations plus 85.5 feet and plus 86.0 feet until the 1st of October; filled to elevation plus 86.5 feet in October; and the filling will be completed to elevation plus 87 feet in November.

The allowable variation in Lake level will be 0.5 feet to lessen the number of spillway gates operated simultaneously in regulating the Lake level.

C. S. RIDLEY,
Assistant Engineer of Maintenance.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective June 1, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.25
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal.	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.15
Paint, zinc, white, dry	Lb.	.15
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Toll Charges for Transit of the Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity ..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton ..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls, but a charge will be made for pilotage in such cases, as provided in Paragraph 4, Item 3, of this tariff, and for handling lines in accordance with Item 4, of this tariff.

Official Circulars.

Appointment.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., May 31, 1923.

To all concerned.—Mr. Guy H. Martin was appointed District Attorney of the Canal Zone by the President on April 21, 1923, and assumed the duties of that office by executing the oath of office on May 18, 1923.

JAY J. MORROW,
Governor.

Invitation for Proposals to Furnish Seasoned Mahogany Logs.

Proposals will be received at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m., June 11, 1923, and then opened, for furnishing, delivered free of all charges at Balboa Storehouse, 10,000 feet, B. M., of seasoned red mahogany logs. Specifications and conditions of purchase may be secured at the office of the Chief Quartermaster, Purchase and Sales Bureau, Balboa Heights.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Sale of Surplus Material and Equipment.

The Panama Canal offers for sale, by direct purchase at moderate prices, a quantity of telephones, telephone ringers and bells, bank check writers and protectors, small tools and other miscellaneous articles of general utility. These articles may be inspected at the Obsolete Section of the General Storehouse, Balboa, and purchased through the office of the General Storekeeper. Detailed information with prices may be secured by telephone by calling Balboa No. 120.

Postal Address of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

MOVEMENTS OF OCEAN VESSELS.—Continued from page 568.

PORT OF CRISTOBAL.—Continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
May 29	Venezuela	Royal Netherlands W. I. Mail	Amsterdam via wayports.
May 29	San Blas	United Fruit Co.	Boston via Habana.
May 29	Parismina	United Fruit Co.	New Orleans via Habana.
May 30	Metapan	United Fruit Co.	New York via Kingston.
May 31	Zacapa	United Fruit Co.	Bocas.
June 1	U. S. S. Fulton [1]	U. S. Navy	High seas.
June 2	Panama	Panama Railroad Steamship Line.	New York via Haiti.
June 2	Venezuela	Royal Netherlands W. I. Mail	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
May 29	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
May 30	Calamares	United Fruit Co.	Port Limon.
May 30	Venezuela	Royal Netherlands W. I. Mail	Port Limon.
May 31	Metapan	United Fruit Co.	New York via Colombia and Kingston.
May 31	San Blas	United Fruit Co.	Boston via Limon.
May 31	Parismina	United Fruit Co.	New Orleans via wayports.
May 31	Zacapa	United Fruit Co.	New Orleans.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
June 1	Rosario	A. Fait & Co.	Punta Arenas.
June 1	Ling Nam	Chingwha Navigation Co.	Hongkong.

Date.	Vessel.	Line.	For—
.....	.....	.....	.....
.....	.....	.....	.....

[1] Towing subchaser No. 237.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., June 13, 1923. No. 44.

Standard Oil Vessels Lead in Number of Canal Transits for May.

Vessels of the Standard Oil Companies greatly outnumbered those of any other lines in the number of Canal transits for the month of May. Westbound transits of Standard Oil vessels numbered 27 and eastbound transits 22, giving a total of 49 transits during the month. All were tank ships; all of the 27 Pacific-bound vessels transited the Canal in ballast, while the 22 transiting the Canal eastbound carried 305,303 tons of cargo, an average of 13,877 tons per vessel.

The line having the second largest number of transits during May was the American-Hawaiian Line, with a total of 18 transits.

The following tabulation shows the number of transits, net tonnage, tolls, and cargo tonnage of the 4 leading American services through the Canal during the month:

	No. of transits.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
Standard Oil	49	331,293	$288,936.20	305,303
American-Hawaiian Line	18	89,524	90,353.75	126,658
Isthmian Line	13	68,261	56,652.75	91,027
Luckenbach Line	12	75,887	71,725.00	84,830

The Standard Oil vessels made up approximately 11 per cent of the total transits for the month, 15 per cent of the net tonnage, paid 15 per cent of the total tolls, and carried 13½ per cent of the total cargo tonnage passing through the Canal.

Transit of the Cable Ship "Dickenson."

Among the vessels transiting the Canal during the past week was the cable ship *Dickenson*, en route from Philadelphia to Honolulu. The *Dickenson* is owned by the Commercial Pacific Cable Company, and was especially designed and constructed for cable repair work. She is a single-screw vessel of the shelter-deck type with machinery amidships, an elliptical stern, cable-ship bow, and is fitted with modern equipment and auxiliaries.

The vessel is an oil burner, has a length over-all of 189 feet 9 inches, 174 feet between perpendiculars, beam of 30 feet, and carries a crew of 26 men. Her base of operations in the Pacific will be Honolulu and she will make regular voyages from that port to Midway and Fanning Islands.

Postal and Cable Address of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 9, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Foldenfjord	2	16.42	3	6.20	3	14.58	3	17.45	Norwegian	Norwegian-American Line	430.4	59.0	18.0	Thameshaven	Los Angeles	Ballast		7,780	5,520
William Perkins	2	18.36	3	6.55	3	15.40	3	19.33	American	Garland Steamship Corp	409.8	54.2	21.6	New York	Los Angeles	General	5,230	6,757	4,919
Independence	2	16.32	3	7.45	3	16.23	3	20.15	American	Barber Line (S. B.)	440.0	56.0	23.0	Savannah	Hongkong	(4)	5,735	8,290	6,063
Kentuckian	2	22.01	3	7.55	3	16.30	3	17.55	American	American-Hawaiian Line	414.5	53.7	22.0	Boston	Los Angeles	General	3,500	7,049	4,941
Meton	5-31	19.57	3	8.23	3	17.11	3	19.30	American	Walker & Daly (S. B.)	425.8	57.0	16.3	Mobile	Los Angeles	Ballast		7,484	5,212
Hammac	2	22.05	3	8.55	3	17.21	3	18.28	American	General Petroleum Corp	435.0	56.2	21.3	Baltimore	Los Angeles	Ballast		7,433	5,058
Lebec	2	22.12	3	9.30	3	18.07	3	19.19	American	General Petroleum Corp	435.0	56.0	18.9	Philadelphia	Los Angeles	Ballast		7,432	5,060
Miskianza	3	5.05	3	9.45	3	19.58			American	Walker & Daly (S. B.)	425.0	57.2	25.1	Mobile	Los Angeles	Fuel oil	8,000	7,205	4,897
Cerro Azul	2	15.09	3	10.23	3	19.06	3	20.44	American	Pan-American Pet. & Transp. Co.	480.5	66.0	20.10	New Orleans	Los Angeles	Ballast		9,398	6,453
Dickenson	3	7.40	3	10.35	3	20.40	11	16.35	American	Commercial Pacific Cable Co	174.3	30.1	14.0	Philadelphia	Honolulu	(5)	25	861	393
San Francisco	3	5.35	3	11.50	3	21.30	3	22.44	American	Isthmian Line	405.0	52.0	26.7	New York	Seattle	General	7,500	6,186	4,449
John D. Rockefeller	3	12.38	3	12.55	3	22.17	3	23.55	American	Standard Oil Co	458.3	60.0	29.6	New York	Los Angeles	Ballast		8,633	6,314
City of Para	5-28	20.15	3	6.58					Panaman	Pacific Mail Steamship Co	345.0	38.0	15.6	Cristobal	Gatun Lake	Ballast		3,739	2,459
Patuxent [1]			3	6.30	3	15.36			American	U. S. Navy	155.0	29.0		Cristobal	Balboa	Towing sub			
Quail [1]			3	12.15	3	22.16			American	U. S. Navy	180.0	35.6		Cristobal	Balboa	Ballast			
Naneric	3	11.20	4	6.25	4	14.49	4	16.05	British	Andrew Weir & Co	430.0	49.0	28.10	Baltimore	Hankow	(6)	6,959	6,383	4,865
British Light	3	16.00	4	7.05	4	15.28	4	18.00	British	Anglo-Saxon Petroleum Co	419.0	54.3	19.4	Tampico	Los Angeles	Ballast		6,763	4,314
Birkenhead	3	18.08	4	8.07	4	16.10	4	20.46	American	Vacuum Oil Co	425.0	57.2	19.0	New York	Los Angeles	Ballast		7,502	4,982
Henry S. Grove	3	19.42	4	8.15	4	17.02	5	2.57	American	Argonaut Steamship Co	494.6	53.0	23.6	Baltimore	Seattle	General	8,502	6,755	4,688
Ebro	3	11.10	4	9.00	4	17.39	4	19.09	British	Pacific Steam Navigation Co	450.0	57.0	25.7	New York	Valparaiso	General	2,869	9,151	6,227
Cape May	3	18.15	4	10.10	4	21.00	4	22.06	American	U. S. & A. Line (S. B.)	415.0	53.7	25.0	New York	Newcastle	General	9,000	7,072	4,944
Carron-park	3	12.00	4	9.50	4	18.33	4	19.45	British	J. & J. Denholm	300.6	43.6	17.6	New Orleans	Guayaquil	General	1,805	2,951	1,879
Potosi	4	2.50	4	10.30	4	18.52	4	20.01	British	Pacific Steam Navigation Co	381.0	49.0	19.9	Liverpool	Callao	General	2,088	5,559	4,201
Maple Branch	4	6.30	4	11.00	4	19.18	4	20.23	British	F. & W. Ritson	400.0	52.0	18.6	(7)	Corral	General	2,500	5,618	4,116
Los Angeles	2	18.50	4	11.45	4	20.01	4	21.26	American	Union Oil Co	435.0	56.0	23.5	Cristobal	Los Angeles	Ballast		7,193	4,903
Hawaiian	4	17.12	5	6.21	5	13.48	5	14.55	American	American-Hawaiian Line	405.8	51.1	27.0	Philadelphia	Los Angeles	General	7,000	6,039	4,180
Curlew [2]	4	15.45	5	7.40	5	14.33	8	8.57	British	British Government	425.0	43.5	15.6	Bermuda	Los Angeles	Ballast			
H. M. Flagler	5	6.53	5	7.55	5	15.28	5	22.25	American	Standard Oil Co	461.6	60.0	19.0	Vallo	Los Angeles	Ballast		8,450	6,089
Cumberland	5	6.35	5	8.49	5	16.26	5	20.39	British	Federal Steam Navigation Co	520.0	64.2	20.0	Antwerp	Auckland	General	8,054	12,166	8,345
James McGee	5	7.45	5	9.15	5	17.19	5	18.20	American	Standard Oil Co	499.0	68.2	17.6	Baltimore	Los Angeles	Ballast		10,964	7,909
David McKelvy	5	8.03	5	9.59	5	17.25	5	18.20	American	Tidewater Oil Co	430.0	59.2	19.0	New York	Los Angeles	Ballast		7,629	5,373
Walter Jennings	5	9.40	5	10.35	5	18.29	5	19.25	American	Standard Oil Co	499.2	68.1	20.0	Baltimore	Los Angeles	Ballast		11,937	7,995
Charlton Hall	5	6.28	5	11.10	5	19.36	5	20.36	American	U. S. Steel Products Co	400.0	50.0	28.0	New York	Corral	Steel products	5,789	5,714	4,161
Albertolite	5	1.16	5	13.05	5	20.16	5	21.20	British	Imperial Oil Co	463.0	60.2	18.9	Montreal	Talara	Ballast		8,491	6,076
Edgemoor [3]	6	0.50	6	6.15	6	15.31	8	15.15	American	U. S. Army	409.6	54.2	23.0	Brooklyn	Honolulu	(8)	8,901	7,486	5,852
Mina Brea	6	1.20	6	7.22	6	16.08			British	Imperial Oil Co	360.3	49.0	15.6	Habana	Talara	Ballast		4,437	2,717

[1] Tug. [2] Cruiser. [3] Transport. [4] Cotton, rosin, and general. [5] Cable office supplies. [6] General, case oil, and gasoline. [7] Middlesborough. [8] Ammunition and supplies.

Gen. Frank M. Coxe[9]	5–24	7.17	6	7.50	6	16.53	8	19.48	American	U. S. Army	145.2	28.0	9.8	New Orleans	San Francisco	Ballast				
Francis E. Powell	6	5.20	6	8.43	6	17.07	6	18.10	American	Atlantic Refining Co	431.0	59.2	19.0	Baltimore	Los Angeles	Ballast		7,860	5,032
New Britain	6	18.35	7	6.25	7	16.40	7	23.04	American	Great Northwestern Ship. Corp.	386.8	52.2	23.6	Norfolk	San Diego	Navy coal	6,837	5,684	4,082
Laura C. Hall[10]	5	15.05	7	6.00	7	15.21	8	22.50	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	13	132	72
Santa Elisa	6	15.15	7	7.25	7	17.40	7	18.48	American	Grace Line	360.3	51.7	23.3	New York	Talcahuano	General	1,942	5,957	4,325
John D. Archbold	7	1.55	7	8.25	7	18.17	7	19.36	American	Standard Oil Co	554.9	75.3	23.6	New York	Los Angeles	Ballast		14,785	10,313
Ardenza	7	10.15	7	10.37	7	19.16	7	20.19	British	Stephen & Co., Ltd	210.0	31.7	15.0	Leith	Vancouver	General	513	930	463
Aysen	3	17.05	7	10.40	7	19.26	7	20.19	Chilean	Chilean Line	379.6	44.3	21.0	Cristobal	Valparaiso	General	877	4,535	3,068
Lochgeil[11]	6	5.40	7	11.10	7	20.11	7	23.04	British	Royal Mail Steam Packet Co	486.0	62.0	25.4	London	Vancouver	General	6,093	10,803	7,606
Cuba	1	14.16	7	11.56	7	21.00	8	2.15	American	Pacific Mail Steamship Co	307.8	42.3	21.5	Cristobal	San Francisco	General	1,740	3,429	2,206
Ceylon Maru	7	12.31	7	12.40	7	21.47	8	2.00	Japanese	Nippon Yusen Kaisha	385.0	48.5	25.6	New York	Yokohama	General	4,597	5,271	3,592
Myriam	7	16.31	8	6.51	8	13.28	8	20.16	French	Cia. Aux. de Navigazione	425.0	57.0	19.6	Cherbourg	Los Angeles	Ballast		7,178	5,072
Henderson[9]	7	17.08	8	7.18	8	14.50	10	7.48	American	U. S. Navy	483.0	60.0	23.9	Norfolk	Seattle	Navy stores	66		
Montreal Maru	8	5.38	8	8.00	8	15.46	9	0.54	Japanese	K. K. K. Bosinjo	405.0	53.0	14.9	New York	Mejillones	Ballast		7,034	5,081
Chincha	8	6.20	8	8.43	8	16.33	8	23.20	American	Planet Line	403.0	52.3	28.0	Baltimore	San Francisco	General	7,668	6,823	4,947
Manavi	1	20.15	8	11.10	8	18.05	8	22.22	British	Pacific Steam Navigation Co	216.0	35.0	13.3	Cristobal	Guayaquil	General	354	1,357	884
Bogota	7	22.45	8	12.10	8	19.18	8	20.16	British	Pacific Steam Navigation Co	400.0	52.5	22.3	Hamburg	Port Montt	General	5,712	5,733	4,015
F. H. Hillman	8	12.40	8	12.53	8	20.51	9	3.00	American	Standard Oil Co	500.0	68.2	21.0	London	Los Angeles	Ballast		11,225	7,913
Gypsy[12]			8	10.57	8	14.02			Panaman	A. Tagaisputos				Cristobal	Gatun Lake	Ballast		3	3
Bowes Castle	8	18.32	9	6.15	9	13.49	9	15.00	British	James Chambers & Co	418.5	56.1	26.0	New York	Shanghai	General, case oil	7,700	6,675	4,698
Salvador	5–30	17.53	9	6.40	9	14.30	9	16.45	British	Pacific Steam Navigation Co	215.0	33.0	14.10	Cristobal	Champerico	General	778	1,270	735
Atholl	8	18.17	9	7.15	9	15.22	9	18.55	British	Australind Steamship Co., Ltd	385.5	48.7	24.4	North Shields	Auckland	General	6,737	4,830	3,556
O–2[13]			9	7.40	10	13.23			American	U. S. Navy	172.4	18.0		Cristobal	Balboa	Ballast			
O–7[13]			9	7.40	10	13.23			American	U. S. Navy	172.4	18.0		Cristobal	Balboa	Ballast			
T. J. Williams	9	2.30	9	8.10	9	16.02	9	17.00	American	Standard Oil Co	465.4	60.2	18.0	New York	Los Angeles	Ballast		8,585	6,087
Port Macquarie	9	4.20	9	9.02	9	16.50	9	17.55	British	Commonwealth & Dom. Line	426.0	54.0	22.6	New York	Auckland	General	1,983	7,553	5,405
Ikala	9	7.50	9	11.40	9	18.33	9	20.00	British	Industry Steamship Co., Ltd	385.1	48.7	15.7	Newport	Antofagasta	Ballast		4,699	3,441
Sudurco	9	13.00	9	13.10	9	20.41	9	22.08	American	Submarine Boat Corp	324.5	46.2	22.11	Pensacola	Los Angeles	General	4,404	3,984	2,636

[9] Transport. [10] Motor schooner. [11] Motor ship. [12] Launch. [13] Submarine.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Trekieve	2	18.45	6	7.39	3	15.37	3	17.14	British	Edward Haines & Sons, Ltd	400.1	52.4	15.0	Sydney	Boston	Wool, general	1,404	5,766	4,083
Nevada	2	21.30	3	8.23	3	17.15	3	21.36	French	French Line	436.0	56.0	26.0	Vancouver	Le Havre	General	8,118	7,500	5,403
San Joaquim	3	3.15	3	10.13	3	18.00	3	18.00	Norwegian	W. Wilhelmsen	425.4	57.1	27.4	Los Angeles	Tampico	Crude oil	9,500	7,059	5,043
Aysen	2	22.00	3	9.49	3	17.05	7	10.40	Chilean	Chilean Line	373.6	43.3	20.0	Lota, Chile	Cristobal	General	132	4,535	3,068
Winnebago	3	2.00	3	10.28	3	19.00	4	1.00	British	Anglo-American Oil Co	370.1	50.1	24.0	San Francisco	London	Lubricating oil	6,130	4,763	3,344
Ares	3	8.00	3	11.10	3	19.22	5	0.33	Dutch	Royal Netherlands W. I. Mail	341.1	48.2	21.0	Valparaiso	Europe[14]	General	3,586	4,385	3,195
Agwistone	2	22.00	3	11.40	3	20.07	3	20.07	American	Atlantic Gulf & W. I. Line	499.9	68.1	28.6	Los Angeles	New York	Crude oil	16,000	10,600	7,676
San Francisco	2	17.35	3	12.59	3	21.20	4	1.45	Swedish	Johnson Line	362.0	51.3	23.4	San Francisco	Stockholm	Grain, general	5,401	5,298	4,019
Belridge	3	13.00	3	13.40	3	22.20	4	2.25	Norwegian	W. Wilhelmsen	425.0	57.0	25.7	Los Angeles	Southampton	Crude oil	([15])	7,065	5,095
Canadian Constructor	2	14.50	4	7.02	4	14.30	4	14.55	British	Canadian Government	430.0	56.2	20.0	Auckland	Montreal	Hides, general	4,000	7,690	5,494
Commercial Pathfinder	3	5.20	4	8.04	4	15.37	4	15.37	American	Moore & McCormack	395.0	49.4	22.6	Seattle	New York	Lumber	5,573	5,020	3,734
Indian Arrow	3	13.55	4	8.54	4	16.25	4	16.25	American	Standard Transportation Co	468.3	62.7	27.0	Los Angeles	Marcus Hook	Gasoline	13,853	10,084	7,426

[14] For orders. [15] 64,000 barrels.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Mundelta	3	18.40	4	9.04	4	17.45	4	17.45	American	Munson Line	370.0	53.2	23.6	Marshfield	New York	Lumber	5,410	5,668	4,297
Sherman	3	21.28	4	9.27	4	18.50	4	20.10	American	Sherman Steamship Co	400.3	45.3	23.0	San Antonio	New York	Copper and ore.	1,803	5,037	3,426
Varg	3	22.30	4	9.42	4	19.32	4	23.40	Norwegian	P. Johannessan	232.0	35.0	13.10	Guayaquil	New York	General	530	1,496	1,040
Eastern Sea	4	6.21	4	10.48	4	19.40	4	23.50	American	United States & American Lines	384.0	51.1	15.4	Melbourne	New York	Wool, general	709	5,934	4,415
Norway Maru	4	6.30	4	11.08	4	21.00	5	13.43	Japanese	Kawasaki Kisen Kaisha	385.0	51.0	26.10	Ocean Island	Eng. Channel	Phosphates	7,900	5,926	4,397
Willhilo	4	10.20	4	12.08	4	21.25	4	21.25	American	Williams Steamship Co	434.3	57.7	24.0	San Francisco	New York	(17)	800	7,983	5,882
Dakotan	4	4.45	4	13.33	4	22.55	4	22.35	American	American-Hawaiian Line	407.7	53.7	25.0	Los Angeles	New York	General	4,520	7,156	5,058
Agwihavre	4	12.20	5	7.16	5	14.55	5	14.55	American	Atlantic Gulf & W. I. Line	480.5	66.0	28.0	Los Angeles	New York	Crude oil	13,500	9,394	6,305
Laura C. Hall	4	10.30	5	7.10	5	15.05	7	6.06	British	Pacific Metals Corporation	81.0	25.6	10.0	Buenaventura	Cristobal	Platinum, gold	58	132	72
Huallaga	4	6.21	5	8.06	5	15.40	10	10.35	Peruvian	Peruvian Line	360.0	44.7	22.0	Ilo	Cristobal	General	2,074	4,514	2,386
Tainui	4	23.00	5	8.24	5	16.40	6	2.35	British	Shaw, Saville & Albion Co	477.8	61.1	23.6	Wellington	London	General	3,432	10,631	7,606
Norden	5	8.45	5	9.59	5	18.20	5	19.40	Danish	Peter Brown, Jr. & Co	318.8	47.3	20.0	Talcahuano	U. S. ports	Nitrates	4,436	3,357	2,562
Balboa	5	9.25	5	10.08	5	18.06	6	21.00	Colombia	Compania Costandra Colombian	190.0	29.1	15.6	Tumaco	Pto. Colombia	General	47	737	335
Bantu	5	11.15	5	12.13	5	20.15	5	20.15	American	Isthmian Line	360.0	47.0	25.2	Vancouver	Norfolk	(18)	3,836	4,607	3,032
Caddo	5	16.55	6	6.51	6	14.23	6	14.23	American	Standard Oil Co. of N. J	414.5	55.2	27.8	Los Angeles	New York	Crude oil	9,000	6,437	4,442
Iowa	5	22.00	6	8.11	6	15.30	6	21.45	French	French Line	450.0	34.7	26.6	Vancouver	Hull	(19)	8,904	7,520	5,070
Essequibo	5	21.58	6	8.52	6	15.42	7	2.51	British	Pacific Steam Navigation Co	450.3	57.8	24.6	Valparaiso	New York	General, oil	2,743	9,099	6,117
Nordfarer	6	7.35	6	9.12	6	17.35	6	18.25	Danish	Ardmore Steamship Co	364.2	47.4	23.0	San Antonio	Baltimore	(20)	5,500	4,289	3,106
San Florentino	6	7.45	6	10.45	6	20.00	6	20.00	British	Anglo-Mexican Petroleum Co	530.4	68.6	30.3	Los Angeles	Tuxpan	Crude oil	16,636	13,067	9,124
Robert E. Hopkins	5	22.00	6	11.22	6	21.05	6	21.05	American	Tidewater Oil Co	424.4	58.2	26.6	Los Angeles	New York	Crude oil	10,187	7,383	5,244
Francis[16]	.....	.....	6	7.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marore	7	1.30	7	7.21	7	18.37	7	18.37	American	Ore Steamship Corp	550.3	72.2	33.0	Cruz Grande	Baltimore	Iron ore	20,000	15,551	4,297
Agwisca	6	15.30	7	8.27	7	18.55	7	18.55	American	Ward Line	468.3	62.7	29.0	Los Angeles	New York	Crude oil	12,800	9,802	6,961
President Hayes	6	18.15	7	9.10	7	17.10	7	18.25	American	Swain & Hoyt	502.0	62.0	26.9	San Francisco	Buenos Aires	(21)	4,176	12,023	8,443
Josiah Macy	6	18.00	7	9.29	7	21.37	7	21.37	American	Standard Oil Co. of N. J	435.0	57.0	27.09	Los Angeles	New York	Crude oil	9,980	7,197	5,082
Steel Exporter	6	21.30	7	9.44	7	20.22	7	20.22	American	Isthmian Line	424.2	56.0	22.0	Seattle	New York	General	5,165	7,611	5,450
Ortega	7	1.30	7	10.51	7	20.07	7	23.30	British	Pacific Steam Navigation Co	465.0	56.0	24.8	Talcahuano	Liverpool	General	3,833	8,345	4,998
Chas. H. Cramp	7	8.00	7	11.26	7	20.55	7	20.55	American	Argonaut Steamship Line	404.6	53.9	25.0	Seattle	Baltimore	General, lumber	5,074	6,755	4,750
Thomas H. Wheeler	7	8.30	7	11.42	7	22.05	7	22.05	American	Standard Oil Co. of N. J	425.0	57.2	28.6	Los Angeles	New York	Crude oil	(22)	7,481	4,769
U.S.S. Patuxent	5	20.36	7	10.55	7	18.42	.....	.....	American	U. S. Navy	156.0	24.0	.....	Balboa	Cristobal	.....	.....	.....	.....
Wabash	7	12.45	7	13.41	7	23.15	8	12.25	American	N. Atl. & Western S. S. Co	381.0	49.9	22.0	Seattle	Philadelphia	General, lumber	2,968	5,825	4,152
Dillwyn	7	14.35	8	7.18	8	14.23	8	14.23	American	C. D. Mallory & Co., Inc	435.0	56.0	28.0	Los Angeles	New York	Crude oil	9,500	7,441	5,180
Alden Anderson	7	18.30	8	8.06	8	16.38	8	16.38	American	Associated Oil Co	426.9	54.6	28.6	Los Angeles	Fall River	Crude oil	9,500	.....	.....
Chas. H. Pratt	7	18.30	8	8.56	8	18.00	8	18.00	American	Standard Oil Co	500.0	68.0	29.6	Los Angeles	Charleston	Crude oil	15,200	10,313	7,492
Santa Clara	7	14.00	7	14.47	8	0.16	8	4.35	American	Pacific Mail Steamship Co	404.6	53.9	26.0	Puget Sound	New York	Lumber, general	6,300	6,760	4,450
Steel Inventor	7	23.45	8	10.02	8	18.48	8	18.48	American	Isthmian Line	424.2	56.2	24.2	Vancouver	Providence	(18)	7,300	7,611	5,450

[16] Launch. [17] Copper, oil, general and lumber, 4,750,000 board feet lumber, including a deck load of 600,000 feet. [18] Magnasite ore and lumber. [19] Wheat, barley, lead, and divers.
[20] Copper and copper ore. [21] Lumber, canned goods, rice, general. [22] 69,000 barrels.

H. H. Rogers	8	12.15	8	13.09	8	20.50	8	20.50	American	Standard Oil Co. of N. J.	500.0	68.2	29.3	Los Angeles	New York	Crude oil	15,000	10,308	7,668
Swifteagle	8	4.30	8	14.02	8	21.57	8	23.15	American	C. D. Mallory & Co.	464.6	60.2	28.0	Los Angeles	Fall River	Crude oil	11,194	8,473	5,997
Acajutla	8	13.40	9	7.09	9	13.45			British	Pacific Steam Navigation Co.	215.7	23.5	17.0	Champerico	Cristobal	(23)	768	1,273	706
Lord Ormonde	9	2.30	9	8.01	9	15.53	9	18.17	British	Columbus Steamship Co.	360.0	46.2	25.0	Caldea	New York	(24)	5,500	4,563	3,406
Sesostris	9	8.00	9	9.02	9	16.50	9	20.55	German	Kosmos Line	360.0	50.0	16.0	Magellan	Hamburg	General	2,454	4,979	3,381

[23] Copper, ore, hides, coffee, platinum. [24] General, copper, coffee, wood, sugar and hides. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
June 3	Amassia	Hamburg-American Line	Puerto Barrios.	June 3	Amassia	Hamburg-American Line	Puerto Colombia.
June 3	Abangarez	United Fruit Co.	New Orleans via Habana.	June 3	Venezuela	Royal Netherlands W. I. Mail	Amsterdam via wayports.
June 3	Calamares	United Fruit Co.	Port Limon.	June 3	Calamares	United Fruit Co.	New York via Habana.
June 4	Denver[25]	U. S. Navy	Guantanamo.	June 4	Abangarez	United Fruit Co.	Bocas.
June 5	Pastores	United Fruit Co.	New York via Habana.	June 5	Denver[25]	U. S. Navy	High seas.
June 5	Haiti	French Line	St. Nazaire via wayports.	June 6	Pastores	United Fruit Co.	Port Limon.
June 5	Delilian	Leyland Line	Liverpool via wayports.	June 7	Sixaola	United Fruit Co.	Colombian ports.
June 5	Denver[25]	U. S. Navy	High Seas.	June 7	Cartago	United Fruit Co.	New Orleans via wayports.
June 6	Cartago	United Fruit Co.	New Orleans via wayports.	June 7	San Gil	United Fruit Co.	Boston via Limon.
June 6	San Gil	United Fruit Co.	Boston via Habana.	June 7	Abangarez	United Fruit Co.	New Orleans.
June 6	Sixaola	United Fruit Co.	New York via Kingston.	June 7	Haiti	French Line	St. Nazaire via wayports.
June 7	Abangarez	United Fruit Co.	Bocas.	June 8	Delilian	Leyland Line	New Orleans.
June 8	Camden	United Fruit Co.	Tampico.	June 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
June 9	Bayano	Elders & Fyffes	Port Limon.	June 9	Bayano	Elders & Fyffes	Bristol via Kingston.

PORT OF BALBOA.

June 3	Santa Maria	Union Oil Co. of California	Port San Luis.	June 3	Ling Nam	Chingwha Navigation Co.	Iquique.
June 4	Remus	Latin-American Line	Vancouver.	June 6	Rosana	A. Fait & Co.	Puntarenas.
June 7	Anomia	Anglo-Saxon Petroleum Co.	Los Angeles.	June 8	Remus	Latin-American Line	Callao.
June 8	Adua	Anglo-Saxon Petroleum Co.	San Francisco.	June 5	Santa Maria	Union Oil Co. of California	Los Angeles.
				June 9	Anomia	Anglo-Saxon Petroleum Co.	Los Angeles.

[25] Cruiser.

* Other than ships passing through the Canal.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended June 11:

Supply boat *No. 1*, repair tail shaft and sea valves; steamships *Western Scout*, repair worm shaft, wheel and caps; make blower engine piston rings; install piston rod; repair ash hoist; make socket wrench; *Acajutla*, repair deck pumps; remake 4 mattresses; repair steam pipe; renew boiler plugs; repair circulating engine steam valve, lagging banks on boiler, galley water tanks, stoke hold bulkhead, water toilet, and 1 block; renew zinc floor; repair dinghy; *Stuyvesant*, *General H. F. Hodges*, *Huallaga*, *El Kantara*, *Salvador*, and *Atholl*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending June 9, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Amassia	Hamburg-American Line	June 3	June 3	(1)	231
Calamares	United Fruit Co	June 3	June 3	3	138
Abangarez	United Fruit Co	June 3	June 4	362	244
Ares	Royal Netherlands W. I. Mail	June 3	June 4	583	(2)
Carronpark	New Orleans & S. A. S. S. Line	June 3	June 4	53	45
Ebro	Pacific Steam Navigation Co	June 3	June 4	183	82
Aysen	Chilean Line	June 3	June 7	135	880½
Pastores	United Fruit Co	June 5	June 6	155	412
Balboa	Compania Costancia Colombiana	June 5	June 6	492	(2)
Huallago	Peruvian Line	June 5		2,102	
Haiti	French Line	June 5	June 7	126	1,142
Delilian	Leyland Line	June 5	June 7	565	83
Laura C. Hall	Pacific Metals Corporation	June 5	June 7	57	13
Lochgoil	Pacific Steam Navigation	June 6	June 7	150	77
San Gil	United Fruit Co	June 6	June 7	11	31
Essequibo	Pacific Steam Navigation Co	June 6	June 7	16	253
Iowa	French Line	June 6	June 6	16	(2)
Sixaola	United Fruit Co	June 6	June 7	85	101
Cartago	United Fruit Co	June 6	June 7	891	65
Santa Elisa	Grace Line	June 6	June 7	43½	(2)
Abangarez	United Fruit Co	June 7	June 7	20	4
Ortega	Pacific Steam Navigation Co	June 7	June 7	23	10
Cuba	Pacific Mail Steamship Co		June 7		1,337
Bogota	Pacific Steam Navigation Co	June 7	June 8	62	18½
Camden	United Fruit Co	June 8		9,081	
Manavi	Pacific Steam Navigation Co		June 8		390
Bayano	Elders & Fyffes, Ltd	June 9	June 9	10	½
Salvador	Pacific Steam Navigation Co		June 9		775
Panama	Panama Railroad Steamship Line		June 9		3,268
Acajutla	Pacific Steam Navigation Co	June 9		768	

[1] No cargo discharged. [2] No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending June 9, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Miskianza	U. S. Shipping Board	June 3		8,000	
Santa Maria	Santa Maria Steamship Co	June 3	June 4	10,500	
Laura C. Hall	Pacific Metals Corporation	June 4	June 5	4	
Remus	Latin-American Line	June 4	June 8	1,080	
Edgemoor	U. S. Army	June 6	June 8	267	9
Cuba	Pacific Mail Steamship Co	June 7	June 7		4
Laura C. Hall	Pacific Metals Corporation	June 7	June 8		56
Henderson	U. S. Navy	June 8		43	
Acajutla	Pacific Steam Navigation Co	June 8	June 9	8	
Manavi	Pacific Steam Navigation Co	June 8	June 8		7

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Airplane Target in Limon Bay.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., June 6, 1923.

To all concerned.—A floating target has been anchored in Limon Bay, on an east and west line between Telfers Island and Limon Point, in 13 feet of water, at a point about 1,100 yards southeast of the two wrecked ships and about 1,400 yards southwest of Panama Canal Channel Buoy No. 8. It is about 20 feet square, with a 6-foot mast in the center bearing a red flag, and is painted red and yellow.

This target is for use of Army airplaines for bombing practice with dummy bombs without explosives, and a patrol will be maintained by the Army during such practice and every precaution taken to insure that the target will not become an obstacle to navigation.

All boats should keep away from the vicinity of the target while bombing practice is going on, and anyone observing the target in a location different from that indicated above should notify the Captain of the Port at Cristobal immediately.

JAY J. MORROW,
Governor.

California Oil Through the Canal.

The *Commercial News* of Los Angeles, California, reports the total production of crude oil in California as 20,695,959 barrels for the month of April, 1923, a considerable increase over March.

During April, 801,590 tons of mineral oil from the California fields were transported through the Canal. Counting 7 barrels of oil to the ton, 5,611,130 barrels of California oil were shipped through the Canal in April. This was equal to slightly more than one-fourth of the total output of the California fields during the month.

Obispo Station Established on Panama Railroad.

A flag station at trackspan 32–9, was established on June 10 and given the name of "Obispo." All passenger trains stop at Obispo on flag, except the evening train from Panama to Colon (No. 8), which will make it a regular stop.

The new station lies about midway between Gamboa and Summit, and opposite the area on the west side of the Canal between Las Cascadas and the former village of Bas Obispo. It was opened primarily for the use of people who have taken land under license for agricultural purposes on both sides of the Canal, but principally at Las Cascadas on the west side, where there is a colony of West Indian Seventh Day Adventists. It was on the initiative of this colony that the station was established, and the colony will provide a rowboat ferry service across the Canal.

The name Obispo was chosen as one connected with the area served by the station. The Gaillard Cut follows the valley of the Obispo River from the valley of the Chagres at Gamboa to the Continental Divide. Two former Canal villages in that section were called Bas Obispo and Haut Obispo, names given by the French canal workers.

Automatic Telephones.

Authority has been granted for the installation of automatic telephone exchanges at Cristobal, Gatun and Pedro Miguel, three of the principal exchanges in the system of The Panama Canal. New buildings of concrete to house the new centrals will be constructed in the Cristobal, Gatun and Pedro Miguel districts. It is expected that the buildings will be completed within the next fiscal year and pos-

sibly that the installation of equipment will be finished within that time, but on account of uncertainty as to deliveries this can not be assured.

The new buildings will be two stories in height. As a general rule the ground floor will be used for battery rooms, storerooms and offices and the exchange proper will be located on the second floor. The building for Cristobal will be 48 by 102 feet in plan and the ground floor will be used for district offices and storerooms for the Electrical and Municipal Divisions. The buildings at Gatun and Pedro Miguel will be alike, each 25 by 32 feet in plan. All will be situated in central locations in the areas which the exchanges will serve.

New Commissary Building at Cristobal.

Reconstruction of the retail commissary store at Cristobal has been authorized. The steel framework of the Front Street wing of the present building is in good condition and this part of the building will be retained, with certain alterations. In addition a new 2-story structure of reinforced concrete will be built in the space facing 11th street, Colon, and lying between the present commissary and the Masonic Temple. In effect, the layout of the building will be completely revised, the main entrances being shifted from Front Street and the entire interior layout being adapted to the services of the various departments under arrangements which experience in the various retail commissary stores has indicated to be most satisfactory.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective June 12, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.25
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.75
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in barrels	Gal.	.375
Oil, engine gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in barrels	Gal.	.50
Oil, engine, gas, extra heavy, in cases	Gal.	.50
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, engine, gas, extra heavy, for motor schooners, in drums	Gal	.40
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.09
Paint, lead, white, in oil	Lb.	.15
Paint, zinc, white, dry	Lb.	.14
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m., and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

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Fender Chain Prevents Accident at Lock Chamber.

The value of fender chains as a protective device for the lock gates was well demonstrated when the steamship *Hoven* in tying up on the west side of the south center wall at the Gatun Locks, on arrival from Gatun Lake, struck the chain fender protecting the upper guard gate. It is estimated that the vessel was going approximately 4 miles an hour when it hit the chain and it was stopped within 50 feet. The protective fender chains prevented a collision which might have resulted in serious damage to the vessel and the locks. At the time the chain was struck, the water in the upper chamber was about 15 feet lower than the level of Gatun Lake. Both chain fender machines apparently worked satisfactorily as about 35 links were pulled out from machine No. 815, and 42 from No. 814. The incident occurred on May 25, and was caused by a misunderstanding of signals in the engine room.

The fender chains are stretched across the lock chamber from near the tops of the walls, and when it is desired to allow a ship to pass, the chains are lowered into a recess made for the purpose in the side walls and lock floor. After the ship passes, they are raised again. The mechanism consists of a hydraulically-operated system of cylinders, so that 1 foot of movement by the cylinder accomplishes 4 feet by the chain. When a ship exerting a pressure of more than 750 pounds to the square inch runs into the fender, the chain is paid out gradually by an automatic release until the vessel comes to a stop.

Quick Repairs to the "Howra."

The steamship *Howra*, owned by the British India Steam Navigation Company, struck the north approach wall at the Pedro Miguel lock while passing through the Canal to the Pacific on May 25, and suffered damages which necessitated the renewal of two plates and the straightening of 2 fore and aft stringers. The steamer was taken to the Balboa Shops for repair at the expense of The Panama Canal.

In order that the *Howra* might proceed on her voyage it was important that these repairs be completed with the minimum delay. The Mechanical Division made a conservative estimate that the repairs would require 5 days, but they were actually completed in 2 days and 2 hours.

The Marine Superintendent of The Panama Canal addressed to the Superintendent of the Mechanical Division a letter of congratulation on the rapid work done on the *Howra*. The latter quoted the letter in a circular to the employees concerned, and added:

"The promptness and satisfactory manner in which this job was accomplished was entirely due to the interest and excellent spirit of cooperation manifested by the workmen and supervisors in the shops. The Superintendent desires to express his appreciation to all concerned for such fine work."

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 16, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Oregon Maru	9	17.12	10	6.23	10	13.11	10	20.30	Japanese	Kawasaki Dockyard Co	385.0	51.0	16.0	New York	Mejillones	Ballast		6,251	4,700
Kalomo	9	19.20	10	6.40	10	14.07	10	16.43	British	Ellerman & Bucknall Line	400.0	52.3	23.0	Philadelphia	Sydney	(3)	4,446	5,672	4,042
Willpolo	10	5.17	10	7.30	10	14.25	10	18.49	American	Williams Line	386.8	52.2	21.4	New York	Los Angeles	General	6,019	5,680	4,080
Amsterdam	9	15.45	10	7.50	10	14.51	10	15.45	Dutch	Royal Netherlands W. I. Mail	474.4	65.6	20.4	Rotterdam	Taltal	Ballast		11,647	8,217
F. Q. Barstow [1]	10	6.00	10	8.15	10	15.24	10	16.43	American	Standard Oil Co	500.0	68.2	20.0	New York	Los Angeles	Ballast		10,530	7,604
Aladdin [1]	10	6.10	10	9.15	10	16.10	10	17.44	American	Standard Transportation Co	435.6	56.2	16.0	New York	Los Angeles	Ballast		7,408	5,068
Venice Maru	10	8.10	10	9.49	10	16.56	10	23.50	Japanese	Kikusai Kisen Kaisha	405.0	53.0	13.8	Baltimore	Valparaiso	Ballast		7,025	5,025
Huallaga	5	15.40	10	10.35	10	17.54	11	18.48	Peruvian	Peruvian Line	360.0	44.7	19.7	Cristobal	Callao	General	91	4,514	2,386
Greenwich	10	6.50	10	10.40	10	18.48	10	20.10	British	Watts, Watts & Co	341.0	46.6	14.6	Newport News	Antofogasta	Ballast		3,974	2,929
J. L. Luckenbach	10	17.30	10	11.35	10	19.40	10	21.05	American	Luckenbach Line	475.0	60.0	31.3	New York	San Francisco	General	10,300	9,294	6,861
El Kantara	8	6.03	10	12.43	10	20.30	10	21.45	French	Messageries Maritimes Co	447.2	52.6	24.3	Dunkirk	Noumea	General	1,316	7,357	4,983
Dean Emery [1]	10	15.40	11	6.21	11	13.47	11	14.55	American	Pan-American Petroleum Co	429.3	59.2	21.6	Providence	Los Angeles	Ballast		7,709	5,517
Trontolite [1]	10	21.20	11	7.10	11	14.47	11	16.15	British	Imperial Oil Co	420.8	57.0	21.0	Halifax	Talara	Ballast		7,240	4,713
Hague Maru	10	21.50	11	7.38	11	15.57	11	17.15	Japanese	Osaka Shosen Kaisha	407.0	50.0	24.0	New York	Osaka	General	6,725	6,202	4,507
Byron D. Benson [1]	11	0.15	11	8.35	11	16.47	11	17.50	American	Tidewater Oil Co	465.4	60.2	20.0	New York	Los Angeles	Ballast		8,546	6,095
W. S. Rheem [1]	11	0.23	11	9.16	11	17.12	11	18.15	American	Standard Oil Co	500.0	68.2	22.0	New York	Los Angeles	Ballast		11,224	7,860
Munindies	11	3.10	11	9.55	11	17.45	11	21.42	American	Munson Line	370.0	53.1	25.0	Baltimore	Seattle	General	6,625	5,525	4,097
Pennsylvania Sun [1]	11	9.00	11	10.30	11	18.25	11	23.25	American	Sun Oil Co	480.5	66.10	22.0	Norfolk	Los Angeles	Ballast		9,325	6,383
J. A. Moffett, Jr. [1]	11	9.15	11	11.15	11	19.32	11	20.36	American	Standard Oil Co	499.2	68.1	21.0	Baltimore	Los Angeles	Ballast		11,037	7,995
Hoyeisan Maru	10	22.45	11	11.25	11	20.17	11	21.42	Japanese	Mitsui & Co	407.3	51.4	26.8	New York	Yokohama	Gneeral	7,233	6,189	4,440
Houma [1]	11	9.50	11	12.05	11	21.08	12	1.15	American	McAllister Bros. (S. B.)	434.8	56.2	22.0	New York	Los Angeles	Ballast		7,425	5,168
Wheaton	11	15.00	12	6.15	12	13.48	12	14.51	American	A. E. Mittnacht (S. B.)	415.0	53.7	29.0	New York	Seattle	General	5,726	7,060	4,904
Craftsman	10	20.25	12	7.15	12	14.35	12	15.35	British	T. & J. Harrison	455.4	56.0	21.6	Liverpool	Seattle	General	6,240	7,769	5,486
Tulsagas [1]	11	15.35	12	7.45	12	15.33	12	16.40	American	McAllister Bros. (S. B.)	431.0	59.2	21.3	New York	Los Angeles	Ballast		7,817	4,961
Samuel Q. Brown [1]	12	7.47	12	8.40	12	16.17	12	17.30	American	Tidewater Oil Co	424.4	58.2	20.0	New York	Los Angeles	Ballast		7,333	5,246
City of Glasgow	12	8.00	12	12.00	12	18.41	12	19.50	British	Ellerman Line, Ltd	391.3	54.0	27.0	New York	Yokohama	General	7,290	7,133	5,418
Otarama	12	6.30	12	13.05	12	20.30	12	21.53	British	New Zealand Shipping Co	454.0	56.3	29.0	New York	Brisbane	General	4,655	7,981	5,518
Ansgir	12	12.55	12	13.15	12	21.16	12	22.20	German	Roland Line	393.0	56.0	17.9	Hamburg	Corral	General	2,680	6,542	4,532
Durenda [2]	12	22.10	13	6.40	13	13.13	13	20.54	British	British-India Steam Nav. Co	450.1	58.3	22.0	New York	Sydney	General	10,458	8,491	5,760
S. M. Spalding [1]	13	0.52	13	7.05	13	14.44	13	15.48	American	Pan-American Petroleum Co	435.0	56.0	17.0	New York	Los Angeles	Ballast		7,331	5,080
Bethore	13	1.25	13	7.45	14	13.42	14	20.12	American	Ore Steamship Co	550.3	72.2	23.0	New York	Cruz Grande	Ballast		15,476	4,354
Standard [1]	13	5.55	13	8.50	13	16.10	13	17.12	American	Standard Oil Co	523.0	68.0	23.0	New York	Los Angeles	Ballast		12,171	8,673
Santa Olivia	13	9.15	13	9.25	13	16.52	13	20.00	American	Atlantic & Pacific S. S. Co	404.6	53.9	26.4	Philadelphia	Seattle	General, steel	8,600	6,779	4,921

[1] Tanker. [2] Motor ship. [3] Gasoline, autos, and general cargo.

Robin Gray	13	10.10	13	10.20	13	17.54	13	22.25	American	Robin Line	424.8	55.2	24.0	New York	Los Angeles	General	8,389	7,472	5,542
Ardmore[1]	13	11.50	13	12.00	13	18.47	14	5.12	American	Standard Oil Co	449.5	59.6	21.0	Hamburg	Talara	Ballast		8,612	6,457
Eurana[1]	13	19.20	14	6.15	14	14.28	14	15.25	American	New York Ship Building Co	419.5	56.5	20.5	New York	Los Angeles	Ballast		6,989	4,976
Alaskan	13	23.15	14	7.25	14	15.58	14	22.46	American	American-Hawaiian Line	470.1	57.2	27.0	New York	Los Angeles	General	9,958	9,250	6,816
Cape Cod[1]	14	7.20	14	7.55	14	16.06			American	Cape Steamship Co	425.8	57.0	18.0	Mobile	Los Angeles	Ballast		7,218	4,955
Sabine Sun[1]	14	8.02	14	8.40	14	16.53	14	21.34	American	Sun Oil Co	429.3	59.2	19.0	New York	Los Angeles	Ballast		7,621	5,277
Thomas P. Beal	14	13.00	14	13.10	14	19.41	14	20.48	American	Crowel & Thurlow	394.1	55.1	28.0	Boston	Seattle	General, steel	,9558	7,047	5,100
Feodosia	14	6.05	15	6.05	15	14.04	15	15.00	German	Hamburg-American Line	337.0	48.4	17.1	Hamburg	Salina Cruz	General	1,400	4,285	3,072
Toco[1]	11	12.00	15	6.53	15	15.59	15	18.35	British	Sheridan Steamship Co	440.8	56.1	26.6	Tampico	Antofogasta	Crude oil	9,758	7,693	4,831
Aconeagua	14	6.39	15	7.07	15	14.50	15	15.45	Chilean	Chilean Line	422.8	56.2	24.2	New York	Valparaiso	General	1,873	7,758	4,705
Waimate[4]	14	21.00	15	7.55	15	16.35	15	17.28	British	New Zealand Shipping Co	420.0	54.0	23.0	London	Adelaide	General	3,360	7,198	5,425
Clement Smith[1]	14	22.18	15	8.40	15	17.18	15	18.12	American	Oil Transport Co	431.0	59.2	17.6	Fall River	Los Angeles	Ballast		8,097	5,349
Oriana	14	14.45	15	9.15	15	18.53	15	22.18	British	Pacific Steam Navigation Co	465.7	56.2	24.5	Liverpool	Coronel	General	4,191	8,620	5,345
Nordlys	15	2.35	15	10.00	15	19.45	15	20.56	Danish	Norden Steamship Co	362.0	51.3	13.0	Norfolk	Tocopilla	Ballast		4,932	3,468
Bengalis	15	5.45	15	10.45	15	20.42	16	13.10	Dutch	Netherland Steamship Co	417.7	54.5	14.0	Amsterdam	Antofogasta	Ballast		6,964	5,019
Halo[1]	15	6.30	15	11.10	15	21.24	15	22.50	American	City Service Co	435.0	56.0	21.0	New York	Los Angeles	Ballast		7,642	5,274
China Arrow[1]	15	11.00	15	11.25	15	22.18	15	23.40	American	Standard Transportation Co	468.3	62.7	27.0	Beaumont	Tsingtau	Kerosene oil	11,096	10,084	7,388
Balboa	14	14.30	15	12.15	15	23.03	16	0.10	Colombian	Compania Costaneia Colombiana	190.0	29.1	15.7	Santa Marta	Tumaco	General, salt	538½	737	325
Acajutla	9	13.45	16	6.18	16	13.19	16	18.35	British	Pacific Steam Navigation Co	215.0	33.0	14.3	Cristobal	Champerico	General	577	1,273	706
Durango[1]	15	13.35	16	6.49	16	14.17	16	18.35	American	Malston Line	435.0	56.0	20.0	New York	Los Angeles	Ballast		7,642	5,274
Walter A. Luckenbach	15	19.50	16	7.35	16	15.49	16	16.50	American	Luckenbach Line	446.5	56.1	29.0	Boston	Los Angeles	General	9,100	8,785	6,567
Floridian	16	6.11	16	8.10	16	16.34	16	21.03	American	American-Hawaiian Line	415.0	53.7	23.0	New York	Los Angeles	General	4,711	7,273	5,105
Swiftstar[1]	16	8.20	16	8.55	16	17.18	17	5.40	American	Swiftsure Oil Transport Co	464.0	60.2	21.0	Providence	Los Angeles	Ballast		8,473	6,050
Mineola	16	1.15	16	10.54	16	18.28	17	8.09	American	Grace Line	298.6	40.0	19.0	New York	Pto. Chieama	General	2,100	2,835	1,805
Athenic	15	17.05	16	11.04	16	19.26	16	20.58	British	White Star Line	500.0	63.3	28.0	London	Auckland	General	7,200	12,896	9,571
Memphis City	15	20.10	16	12.28	16	20.26	16	21.51	American	U. S. Steel Products Co	424.2	56.2	26.10	Mobile	Yokohama	(6)	7,945		
Laekawanna	16	7.20	16	13.05	17	10.59			American	R. Bruce Somerville	260.0	39.2	21.8	Galveston	Portland	Sulphur	2,403		
No. 2072[5]	15		16		16	14.20			Panaman	A. Sardie				Cristobal	Gatun Lake	Unknown		3	3

[1] Tanker. [4] Returned to anchorage, 23.58 for repairs, and again cleared for sea, June 16, at 13.10. [5] Cayuca. [6] Steel products and cotton.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Agwisun	11	3.00	11	8.56	11	17.10	11	22.15	American	Ward Line	429.3	59.2	26.4	Los Angeles	New York	Crude oil	10,323	7,612	5,305
Santa Teresa	11	.30	11	9.09	11	16.20	11	21.21	American	Grace Line	360.2	51.6	22.8	Talcahuano	New York	General	3,160	5,726	4,086
H. M. Storey	11	7.30	11	9.52	11	17.45	11	17.45	American	Standard Oil Co	500.0	68.2	29.6	Los Angeles	Baltimore	Crude oil	15,000	11,224	7,849
John Worthington	11	7.20	11	10.09	11	19.00	11	19.55	American	Standard Oil Co. of N. J.	464.4	60.2	27.6	Los Angeles	New York	Fuel oil	12,500	8,491	6,096
San Gerardo	11	7.45	11	11.19	11	20.30	11	20.30	British	Eagle Oil Transport Co	530.2	68.5	30.6	Los Angeles	Tampico	Crude oil	16,773	13,427	9,342
Halsey	10	22.00	11	12.59	11	21.35	11	21.35	American	C. D. Mallory & Co	435.0	56.0	28.5	Los Angeles	New York	Crude oil	11,232	7,642	5,324
Delaware Sun	11	15.10	12	7.06	12	14.45	12	14.45	American	Sun Oil Co	480.5	66.0	28.0	Los Angeles	Philadelphia	Crude oil	13,000	9,402	6,586
Chuky	11	17.30	12	8.10	12	16.37	12	18.30	British	Chilean Steamship Co	440.8	56.1	14.0	Tocopilla	Tampico	Ballast		7,691	4,723
Herakles	11	17.45	12	8.45	12	17.45	12	18.50	Norwegian	Bruusgaards Co	398.8	54.1	25.0	Iquique	Wilmington	Nitrate	8,150	5,680	4,220
Sagadahoe	11	18.50	12	8.53	12	18.20	12	18.20	American	Argonaut Steamship Co	420.5	54.2	22.0	Portland	New York	Lumber, general	6,000	7,340	5,342
A. L. Kent	12	4.15	12	9.38	12	17.45	12	17.45	American	Crowell & Thurlow Intercoast	394.0	55.1	26.0	Portland	Baltimore	Lumber, general	6,500	7,047	5,030
Coaxet	12	9.50	12	10.31	12	18.50	12	21.20	American	Barber Line	401.4	53.2	26.0	Manila	Philadelphia	(7)	7,000	6,597	4,804
Bohemian Club	12	10.56	12	12.11	12	20.09	12	20.09	American	Atlantic Refining Co	425.0	57.2	27.2	Los Angeles	Philadelphia	Crude oil	10,000	7,204	4,769
British Sargeant	12	17.55	13	7.24	13	14.35	13	14.35	British	British Tanker Co., Ltd	400.6	54.1	26.6	San Francisco	London	Gasoline	7,742	6,432	3,904
Alameda	12	20.50	13	8.02	13	15.36	13	16.45	American	Standard Oil Co	430.0	58.0	26.0	Los Angeles	New York	Crude oil	9,553	7,425	5,356

[7] Sugar, copra and general.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Valdura	12	22.00	13	8.48	13	16.50	13	16.50	British	Gow, Harrison & Co	414.3	56.0	26.0	Iquique	Atlantic ports	Nitrate of soda	8,406	6,101	4,358
R-24[8]			13	9.57	13	16.41			American	U. S. Navy				Balboa	Cristobal				
Ecuador	12	22.35	13	14.45	13	21.15	14	14.35	American	Pacific Mail Steamship Co	380.6	48.7	25.0	San Francisco	New York	([10])	2,500	5,926	4,178
Francis[9]			13	14.10	13				American					Gatun	Cristobal				
Newport	13	14.35	14	7.23	14	14.18			American	Pacific Mail Steamship Co	326.0	38.2	16.6	San Francisco	Cristobal	General, coffee	1,077	3,173	2,163
Yorba Linda	13	16.50	14	8.05	14	16.03	14	16.03	American	General Petroleum Co	435.0	56.2	29.0	Los Angeles	Philadelphia	Fuel oil	([11])	7,424	5,077
R-25[8]			14	8.39	14	16.00			American	U. S. Navy				Balboa	Cristobal				
Swiftwind	13	17.45	14	9.02	14	16.45	14	16.45	American	C. D. Mallory & Co	464.5	60.2	27.0	Los Angeles	Fall River	Crude oil	([12])	8,473	5,997
Eurydamas	13	21.30	14	9.57	14	17.05	14	17.05	British	Blue Funnel Line	410.0	35.0	25 1	Vancouver	London	General, wheat	6,870	5,718	4,189
Ucayali	13	23.30	14	13.05	14	19.55			Peruvian	Peruvian Line	374.7	46.3	18.6	Callao	Cristobal	General	1,483	4,466	2,405
Kofuku Maru	14	6.40	15	7.03	15	15.22	15	15.22	Japanese	Kabushiki Kaisha Kawasaki	385.0	51.0	27.0	Kobe	United Kdm.	Wheat	7,738	6,219	4,710
J. C. Donnell	14	19.50	15	7.48	15	16.27	15	16.27	American	Atlantic Refining Co	500.0	68.2	28.0	Los Angeles	Philadelphia	Crude oil	15,000	10,435	7,900
S. C. T. Dodd	15	2.00	15	8.35	15	16.40	15	16.40	American	Standard Oil Co	425.0	57.2	28.6	Los Angeles	Port Arthur	Distillate oil	9,800	7,481	4,975
Frederic R. Kellogg	15	5.06	15	9.53	15	17.36	15	17.36	American	Pan-American Pet. & Trans. Co.	425.8	57.0	27.8	Los Angeles	New Orleans	Crude oil	10,130	7,178	4,963
E. T. Bedford	15	4.10	15	11.15	15	19.47	15	19.47	American	Standard Oil Co. of N. J	499.2	68.1	30.0	Los Angeles	New York	Crude oil	15,788	11,009	7,967
Melville Dollar	15	5.00	15	11.58	15	20.50	15	20.50	American	Dollar Line	429.0	55.2	26.6	Vancouver	Boston	Lumber	7,500	7,581	5,519
Gold Shell	15	12.55	15	13.40	15	21.42	15	21.45	American	Asiatic Petroleum Co	211.6	53.4	24.0	Los Angeles	Tampico	Crude oil	7,680	6,201	4,336
West Greylock	15	13.30	15	14.20	15	22.50	15	22.50	American	Seas Shipping Co	430.7	54.3	23.6	San Francisco	Boston	([13])	6,000	7,946	5,698
S. B. Hunt	15	16.00	16	7.08	16	14.35	16	14.35	American	Standard Oil Co. of N. J	429.3	59.2	27.6	Los Angeles	New York	Crude oil	10,973	7,653	5,522
Richeoncal	15	17.30	16	8.16	16	15.46	16	15.46	American	New England Fuel & Trans. Co.	435.0	56.0	28.0	Los Angeles	Boston	Crude oil	([14])	7,481	5,119
Gargoyle	15	18.00	16	8.24	16	16.56	16	16.56	American	Vacuum Oil Co	425.0	57.2	27.6	San Francisco	Paulsboro	Lubricating oil	10,100	7,510	4,989
Taketoyo Maru	15	18.20	16	8.51	16	17.20	16	17.20	Japanese	Nippon Yusen Kaisha	445.0	58.0	20.0	Kobe	New York	General	6,946	7,567	5,456
Victolite	16	4.06	16	9.51	16	18.22	16	18.22	British	Imperial Oil Co	500.4	68.2	29.9	Los Angeles	Montreal	Crude oil	15,000	11,049	7,732
Andrea F. Luckenbach	16	5.10	16	10.45	16	19.23	16	19.25	American	Luckenbach Line	496.0	68.2	27.6	Portland	Philadelphia	General	10,000	11,487	8,762
Agwismith	16	.32	16	11.00	16	21.06	16	21.06	American	Ward Line	499.9	68.1	28.2	Los Angeles	New York	Crude oil	15,000	10,600	7,447
Waimana	16	6.45	16	13.01	16	22.40	17	0.20	British	Shaw, Savill & Co	494.0	63.1	28.0	Wellington	London	Gen., froz. meats	7,011	11,229	8,252
Agwipond	16	8.30	16	13.31	16	23.25	16	23.25	American	Ward Line	468.3	62.7	27.6	Los Angeles	Baltimore	Crude oil	12,578	9,810	7,018

[8] Submarine. [9] Launch. [10] General, copper, canned goods. [11] 66,927 barrels. [12] 80,000 barrels. [13] Copper, wood, and canned goods. [14] 73,000 barrels.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
June 10	Pastores	United Fruit Co.	Port Limon.	June 10	Pastores	United Fruit Co.	New York via Habana.
June 10	Atenas	United Fruit Co.	New Orleans via Habana.	June 10	Camden	United Fruit Co.	Tampico.
June 10	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.	June 11	Atenas	United Fruit Co.	Bocas.
June 11	H. M. S. Valerian	British Government	Kingston.	June 12	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.
June 12	Ulysses	Panama Railroad Steamship Line.	Norfolk.	June 13	Ulua	United Fruit Co	Port Limon.
June 12	Ulua	United Fruit Co.	New York via Habana.	June 13	San Benito	United Fruit Co.	Boston via Limon.
June 13	San Benito	United Fruit Co	Boston via Habana.	June 14	Carrillo	United Fruit Co.	Colombian ports.
June 13	Heredia	United Fruit Co	New Orleans via Habana.	June 14	Sixaola	United Fruit Co.	New York via Kingston.
June 13	Carrillo	United Fruit Co.	New York via Kingston.	June 14	Heredia	United Fruit Co.	New Orleans via wayports.
June 13	Cristobal	Panama Railroad Steamship Line.	New York via Haiti.	June 14	Atenas	United Fruit Co.	New Orleans.
June 14	Sixaola	United Fruit Co.	Colombian ports.	June 15	H. M. S. Valerian	British Government	Port Limon.
June 14	U. S. S. Fulton	U. S. Navy	High seas.	June 16	Stuyvesant	Royal Netherlands W. I. Mail	Amsterdam via wayports.
June 14	Atenas	United Fruit Co.	Bocas.	June 16	Western Scout	U. S. Army	New York.
June 15	Stuyvesant	Royal Netherlands W. I. Mail	Port Limon.				
June 16	Adalia	Hamburg-American Line	Hamburg via wayports.				
June 11	Western Scout	U. S. Army	New York.				

PORT OF BALBOA.

June 12	W. J. Hanna	Standard Oil Co. of N. J	Campana.	June 11	Adna	Anglo-Saxon Petroleum Co	Los Angeles.
June 12	Talamanca	United Fruit Co.	David.	June 15	Talamanca	United Fruit Co	Tonosi.
June 13	Ginyo Maru	Toyo Kisen Kaisha	Valparaiso.	June 13	Ginyo Maru	Toyo Kisen Kaisha	Los Angeles.

* Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in May, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States intercoastal:							
United States	112	510,532	615,836	794,947	510,461	$499,823.43	311,625
From United States to Far East:							
British	7	36,822	45,410	56,605	36,051	46,027.50	62,828
Japanese	7	29,239	32,979	43,540	28,622	36,019.75	47,250
United States	5	22,430	29,156	33,455	22,378	28,037.50	45,149
French	1	4,408	5,454	7,102	4,418	5,510.00	8,189
Norwegian	1	2,712	4,232	4,342	2,726	3,390.00	7,200
Totals	21	95,611	117,231	145,044	94,195	118,984.75	170,616
From Europe to west coast of South America:							
German	4	14,288	17,743	21,367	13,210	17,860.00	11,045
British	3	13,127	16,456	21,507	13,006	15,408.75	9,205
Dutch	3	12,982	12,124	20,773	13,007	16,227.50	12,481
Italian	2	6,814	7,498	9,874	6,025	8,391.35	1,708
French	1	3,631	4,166	5,818	3,712	4,538.75	1,435
Japanese	1	4,081	5,077	6,586	4,038	5,101.25	5,100
Peruvian	1	2,060	2,382	3,287	1,993	2,575.00	2,497
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	217
Totals	16	59,943	74,175	93,852	57,712	74,802.60	43,688
From Europe to west coast of United States:							
British	10	36,535	44,254	59,200	35,535	33,214.61	9,000
Norwegian	2	6,555	7,772	10,752	6,587	6,588.77	6,300
French	1	3,283	4,187	5,186	3,200	4,103.75	3,990
Swedish	1	2,259	3,900	3,805	2,833	2,823.75	4,592
United States	1	1,201	1,560	1,974	1,161	1,501.25	1,630
Totals	15	49,833	61,673	80,917	49,316	48,232.13	25,512
From United States to South America:							
United States	6	18,213	21,535	32,444	17,926	18,590.25	8,837
British	4	13,630	15,691	21,050	13,034	14,858.00	5,751
Norwegian	2	3,589	5,260	5,776	3,598	3,787.20	.....
Chilean	1	3,479	4,672	7,289	3,886	4,348.75	1,306
Danish	1	2,380	2,339	2,827	1,826	2,806.80	2,024
Totals	14	41,291	49,497	69,386	40,270	44,391.00	17,918
From United States to Australasia:							
British	8	29,757	37,472	45,458	29,745	36,893.00	51,252
United States	1	4,414	4,442	5,870	4,414	5,330.40	4,250
Totals	9	34,171	41,914	51,328	34,159	42,223.40	55,502
From Cristobal, C. Z., to South America:							
Peruvian	3	4,010	8,315	12,666	6,614	5,012.50	1,238
British	2	612	956	1,152	715	765.00	397
Chilean	2	3,274	5,759	6,351	3,872	4,092.50	1,188
Totals	7	7,896	15,030	20,169	11,201	9,870.00	2,823
From Europe to Australasia:							
British	6	36,744	48,073	59,052	37,285	45,930.00	33,162
From Europe to Canada:							
British	3	8,933	10,367	14,703	9,209	10,818.64	12,777
Dutch	1	5,763	7,619	9,338	5,808	7,203.75	6,838
Danish	1	2,985	4,618	4,750	3,006	3,731.25	5,837
Totals	5	17,681	22,604	28,791	18,023	21,753.64	25,452
From United States to Canada:							
United States	3	9,752	13,556	15,860	9,678	12,190.00	21,936
From West Indies to United States:							
United States	2	8,811	10,715	13,723	8,601	7,714.80	.....
British	1	4,136	4,964	6,888	4,080	3,574.08	.....
Totals	3	12,947	15,679	20,611	12,681	11,288.88	.....
From Cristobal, C. Z. to Central America:							
British	3	2,143	2,459	3,746	2,194	2,340.46	1,725
From Mexico to South America:							
British	1	4,248	4,723	7,335	4,259	5,310.00	9,618
United States	1	4,107	4,689	6,496	4,047	5,133.75	8,700
Totals	2	8,355	9,412	13,831	8,306	10,443.75	18,318
From east coast of South America to west coast of South America:							
British	1	439	457	562	436	329.25	.....
Colombian	1	334	335	864	614	402.00	474
Totals	2	773	792	1,426	1,050	731.25	474

ATLANTIC TO PACIFIC.—Continued.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From east coast of South America to west coast of United States:							
United States	1	6,228	8,495	10,534	6,195	$7,785.00	4,572
From east coast of Mexico to west coast of United States:							
British	1	4,645	5,311	7,270	4,513	3,823.92	.....
Foreign vessel between United States intercoastal ports:							
Japanese	1	5,070	5,415	6,783	4,988	6,337.50	.....
From east coast of Canada to west coast of United States:							
British	1	7,632	7,732	10,825	7,443	5,724.00	.....
From east coast of Canada to Australasia:							
British	1	3,322	4,186	5, 9	3,336	4,152.50	2,998
From West Indies to Canada:							
Norwegian	1	3,267	3,879	4,854	2,950	4,083.75	5,250
From West Indies to South America:							
British	1	4,237	4,898	7,116	3,997	3,526.56	.....
From Cristobal, C. Z., to United States:							
United States	1	4,250	5,077	6,901	4,250	3,655.44	.....
From North Africa to United States:							
British	1	3,601	4,178	5,920	3,624	3,008.16	.....
From Europe to Central America:							
German	1	1,462	2,532	2,452	1,469	1,827.50	780
From Cristobal, C. Z. to Balboa, C. Z.:							
Panaman	1	24	27	40	19	19.44	.....
Totals, May, 1923	229	931,410	1,139,661	1,467,094	929,315	986,949.06	742,351
Totals, May, 1922	134	472,852	594,713	742,419	467,705	578,433.82	673,398
Totals, May, 1921	100	334,894	414,429	529,408	334,322	412,934.09	381,323

PACIFIC TO ATLANTIC.

United States intercoastal:							
United States	93	436,024	534,559	683,096	433,239	$541,378.38	916,104
From west coast of South America to east coast of United States:							
United States	11	27,564	33,547	54,718	33,395	34,111.70	65,978
British	2	7,534	10,369	13,008	7,905	9,417.50	11,378
Japanese	1	4,349	4,700	5,783	4,254	5,436 25	8,240
Panaman	1	4,014	4,897	6,386	4,067	5,017.50	9,264
Chilean	1	3,512	4,705	7,289	3,913	4,390.00	2,183
Norwegian	1	3,314	4,752	5,268	3,252	4,142.50	8,800
Danish	1	2,256	3,468	3,718	2,307	2,820.00	6,286
Totals	18	53,062	66,438	96,170	59,093	65,335.45	112,129
From west coast of South America to Europe:							
British	7	29,679	37,113	48,166	29,908	37,098.75	37,611
Dutch	3	6,526	10,587	10,521	6,509	8,157.50	14,640
Italian	2	7,357	8,025	12,516	7,451	9,196.25	2,634
German	2	6,481	8,490	10,610	6,536	8,101.25	12,830
French	1	4,326	4,363	5,903	3,743	5,235.60	7,010
Totals	15	54,369	68,578	87,716	54,147	67,789.35	74,725
From west coast of Canada to Europe:							
British	4	20,879	24,588	30,695	19,449	25,725.85	37,905
Danish	1	3,317	5,303	5,296	3,311	4,116.25	7,265
Dutch	1	4,547	7,056	7,310	4,495	5,683.75	9,551
Norwegian	1	4,509	5,637	7,116	4,493	5,636.25	8,800
Swedish	1	3,406	5,661	5,614	3,446	4,257.50	7,324
United States	1	3,044	3,508	4,319	2,759	3,895.00	6,170
Totals	9	39,702	51,753	60,350	37,953	49,254.60	77,015
From Far East to east coast of United States:							
United States	4	18,314	25,567	29,059	17,407	22,892.50	33,462
Japanese	2	7,885	10,243	12,818	7,873	9,856.25	10,948
British	1	10,545	15,675	19,602	11,866	13,181.25	.....
Norwegian	1	3,416	3,937	5,489	3,435	4,270.00	3,500
Totals	8	40,160	55,422	66,968	40,581	50,200.00	47,910

PACIFIC TO ATLANTIC.—Continued.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of United States to east coast of Mexico:							
British	6	37,477	41,620	57,780	37,483	$46,495.40	75,601
Norwegian	1	4,315	4,916	7,102	4,434	5,393.75	9,760
United States	1	4,149	4,959	6,653	4,153	5,186.25	8,951
Totals	8	45,941	51,495	71,535	46,070	57,075.40	94,312
From west coast of Canada to east coast of United States:							
United States	6	19,168	27,508	30,852	19,806	24,097.25	38,627
German	1	2,975	4,888	4,591	2,952	3,718.75	7,580
Totals	7	22,143	32,396	35,443	22,758	27,726.00	46,207
From west coast of United States to Europe:							
United States		9,247	12,612	14,815	9,332	11,468.75	18,611
British	2	8,133	9,419	13,224	8,052	10,166.25	18,064
French	1	4,217	4,909	7,011	4,143	5,271.25	9,200
Norwegian	1	3,003	3,886	4,894	3,054	3,753.75	5,000
Totals	6	24,600	30,826	39,944	24,591	30,660.00	50,875
From Australasia to Europe:							
British	4	18,869	22,708	29,987	19,279	23,583.25	17,762
Swedish	1	3,094	5,196	5,234	3,602	3,857.50	8,800
Totals	5	21,963	27,814	35,221	22,881	27,453.75	26,562
From Central America to Cristobal, C. Z.:							
British	3	2,143	2,459	3,746	2,194	2,678.75	3,135
Panaman	2	2,187	2,486	3,444	2,180	2,723.19	1,901
Totals	5	4,330	4,945	7,190	4,374	5,401.94	5,036
From west coast of South America to Cristobal, C. Z.:							
Chilean	2	3,274	5,759	6,438	3,853	4,092.50	229
Peruvian	2	3,021	5,910	9,361	5,100	3,776.25	3,369
Totals	4	6,295	11,669	15,799	8,953	7,868.75	3,598
From Australasia to east coast of United States:							
British	2	9,427	10,572	14,135	9,517	11,597.35	10,128
United States	1	4,335	4,321	5,716	4,271	5,185.20	3,413
Totals	3	13,762	14,893	19,851	13,788	16,782.55	13,541
From west coast of United States to Cristobal, C. Z.:							
United States	2	5,451	6,637	8,874	5,411	6,813.75	6,336
From west coast of South America to West Indies:							
British	2	6,788	7,615	11,261	6,563	8,485.00	14,579
From west coast of South America to east coast of Canada:							
British	1	5,166	6,096	8,764	5,511	6,457.50	11,621
From west coast of United States to east coast of Canada:							
British	1	5,166	6,096	8,461	5,960	6,457.50	11,893
From west coast of South America to east coast of Mexico:							
British	1	4,248	4,723	7,335	4,259	3,400.56	.....
Canadian coastwise:							
British	1	3,175	4,045	5,263	3,198	3,968.75	6,583
From west coast of Central America to Europe:							
German	1	2,163	2,753	3,703	2,144	2,703.75	3,706
Totals, May, 1923	190	793,989	988,753	1,272,944	891,744	985,212.98	1,522,732
Totals, May, 1922	109	355,831	438,103	555,134	354,585	436,623.55	485,109
Totals, May, 1921	110	360,002	450,188	563,194	358,425	422,948.68	411,412

Postal and Cable Address of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Tanker Tonnage Through the Canal in May, 1923.

The tanker tonnage through the Canal during the month of May, 1923, was the greatest since the opening of the Canal. The tanker tonnage from the Atlantic to the Pacific represented 46 per cent of the total; and from the Pacific to the Atlantic the tanker tonnage represented slightly more than 50 per cent of the total. The following statement shows the number of tankers transiting the Canal, together with their aggregate tonnage, tolls, and cargo, segregated by nationality of tankers:

Nationality.	No. of tankers.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
United States	73	436,766	$324,233.45	32,981
British	16	75,037	56,486.33	16,175
Norwegian	2	8,298	6,317.52	7,200
Totals	91	520,101	387,037.30	56,356
Pacific to Atlantic:				
United States	67	411,690	427,567.40	780,144
British	13	75,569	81,462.21	131,758
French	1	4,909	5,271.25	9,200
Norwegian	1	4,916	5,393.75	9,760
Totals	82	497,084	519,694.61	930,862

Only 8 tankers passing from the Atlantic to the Pacific carried cargo; all the remainder were in ballast. All of the tankers going from the Pacific to the Atlantic were laden.

The following is a statement of Canal traffic during the month of May, 1923, segregated between tankers and general cargo vessels:

	No. of ships.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific:				
Tankers	91	520,101	$387,037.30	56,356
General cargo vessels	138	619,560	599,911.76	685,995
Totals	229	1,139,661	986,949.06	742,351
Pacific to Atlantic:				
Tankers	82	497,084	519,694.61	930,862
General cargo vessels	108	491,669	465,518.37	691,870
Totals	190	988,753	985,212.98	1,522,732

Ships at Canal Repair Shops.

The following vessels were ot the Cristobal shops for repairs during the week ended June 16:

Launch *Dalia*, repair tail shaft, stern bearing, shaft log, engine, keel, and fender; calk deck seams; lift launch out of and into water; steamship *Ulysses*, scale and paint holds; submarine *D–3*, dock and undock; adjust rods; remove bow rudder; rebush and straighten cams; realign sliding arcs; align shafting; overhaul 10 gauges; renew all rubber gaskets; test torpedo impulse tanks; clean and paint all tanks; grind steering motor commutator; test wireless antennae; renew zincs; regrind sea valves; repair leaky seams in hull; repair torpedo cap fittings; repair upper right and lower left torpedo tubes; repair steering and diving gear; repair steering wheel indicator system; renew superstructure; renew wooden deck and angle iron supports; repair and adjust torpedo racks; stage, clean, scale and paint bottom; apply bitumastic cement under superstructure; install signal ejector; install valves and piping for torpedo tube quick closing vents; press on 12 exhaust cams; minor repairs to propellers, stern tube and outboard bearings; overhaul main engine clutch bands; regrind muffler valves; calibrate 4 voltmeters and 10 ampmeters; renew door casings of engine room air compressors; take cut from main motor commutator;

furnish temporary electric light and power; furnish compressed air and fresh water; tug *Tavernilla*, mineplanter *Graham*, steamships *Acajutla*, *District of Columbia*, *Heffron*, *Balboa*, *Oriana*, *Ucayali*, *Ulysses*, and *Cristobal*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending June 16, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged.	Cargo— Laded.
				Tons.	*Tons.*
Huallaga	Peruvian Line		June 10		91
Pastores	United Fruit Co	June 10	June 10	(1)	48
Atenas	United Fruit Co	June 10	June 11	403	292
Stuyvesant	Royal Netherlands W. I. Mail	June 10	June 12	170	19
Craftsman	Leyland Line	June 10	June 12	608	(4)
Ulua	United Fruit Co	June 12	June 13	187	227
Cristobal	Panama Railroad Steamship Line	June 13		1,394	
San Bento	United Fruit Co	June 13	June 13	5	382
Carrillo	United Fruit Co	June 13	June 14	83	342
Heredia	United Fruit Co	June 13	June 14	808	53
Ecuador	Pacific Mail Steamship Line	June 13	June 14	273	202
Sixaola	United Fruit Co	June 14	June 14	(2)	40
Atenas	United Fruit Co	June 14	June 14	(3)	1
Newport	Pacific Mail Steamship Line	June 14		1,151	
Oriana	Pacific Steam Navigation Co	June 14	June 15	60	61
Aconcagua	Chilean Line	June 14	June 15	(1)	276
Balboa	Compania Costancia Colombiana	June 14	June 15	18	6
Ucayali	Peruvian Line	June 14		1,535	
Stuyvesant	Royal Netherlands W. I. Mail	June 15	June 16	14	983
Chester Sun	Tidewater Oil Co	June 15		300	
Venezuela	Pacific Mail Steamship Line	June 16		268	
Manuel Arnus	Spanish Line	June 16		92	
Adalia	Hamburg-American Line	June 16		14	
Acajutla	Pacific Steam Navigation Co		June 16		578

[1] No cargo discharged. [2] 150 pounds. [3] 178 pounds. [4] No cargo laded.

New Line in Intercoastal Service.

The transit of the steamship *Sudurco* through the Panama Canal on June 9, marked the inauguration of a new intercoastal service through the Canal. The *Sudurco* is owned by the Submarine Boat Corporation, and on her initial voyage through the Canal she carried 4,404 tons of cargo, consisting principally of coal, iron and steel, laden at Baltimore and Pensacola for discharge at Los Angeles, San Francisco and Vancouver, B. C.

It has been announced that the new line will assign 14 steamers to the intercoastal trade.

Telegraphic Communication.

With reference to the article on "Telegraphic Communication" published in THE PANAMA CANAL RECORD of May 30, 1923, minor changes have been made in the rates. The following are the current rates of the All America Cables, Inc., from the Panama Canal terminal ports to the points named:

Rate to—	Per word.
Abyssinia	$0.99
Aden, Arabia	1.09
Africa, British East	1.40
Alabama	.36
Alaska	.67
Albania	.72
Alberta (Canada)	.42
Algeria	.69
Argentina:	
Buenos Aires, Rosario, Mendoza, Junin, and Villa Mercedes	.40
Other places	.48
Arizona	.42
Arkansas	.39
Aruba	1.45
Ascension Island (Atlantic Ocean)	1.14
Australia	1.06
Austria	.70
Azores (Atlantic Ocean) (*via* New York)	$0.65
Belgium	.63
Bermuda (*via* New York)	.66
Bolivia:	
Corcoro and La Paz	.39
Other places	.44
Riberalta and Trinidad	.64
Brazil:	
Amazon River (first zone)	.90
Amazon River (second zone)	1.20
Acre District (*via* Belem)	1.10
Acre District (*via* Manaos)	1.50
Rio Janeiro, Santos, and Sao-Paulo	.50
Other places (except Amazon River and Acre district)	.60
British Columbia (Canada)	.42
British West Indies:	
Jamaica	.59

Rate to—	Per word.
British West Indies—Continued:	
Barbados	$0.59
Antigua, British Guiana, Dominica, Grenada, Montserrat, St. Christopher, St. Kitts, St. Lucia, St. Vincent, Trinidad	.71
Tobago (*via* wireless and Trinidad)	.71
Bulgaria and eastern Roumelia	.79
California	.42
Cameroons	1.31
Ceylon (Indian Ocean)	1.01
Chafarinas	.73
Chatam Islands	1.38
Chile:	
Iquique, Antofagasta, Santiago, Valparaiso, Los Andes, Arica, Tacna	.30
Punta Arenas (*via* Santiago and wireless)	.42
Other places	.34
China:	
Via Pacific (Other places)	1.40
Via Atlantic (Other places)	1.58
Macao (*via* Atlantic)	1.62
Macao (*via* Pacific)	1.45
Cilicia	.80
Cochin China (French)	1.39
Colombia:	
Buenaventura and Cartagena	.20
St. Andrews Island (*via* Cartagena and wireless)	.38
Other places	.35
Colorado	.39
Connecticut	.33
Corsica	.62
Costa Rica:	
Limon and San Jose	.15
All other places	.20
Crete	.75
Cuba:	
Santiago and Fisherman's Point	.25
Other places	.30
Curacao	1.33
Cyprus	.82
Danzig	.67
Delaware	.33
Denmark	.75
District of Columbia	.33
	.16½
Dominican Republic (*via* wireless)	.47
Dominican Republic, (*via* Cuba) all places	.85
Dutch Guiana	1.47
Ecuador:	
Guayaquil	.25
Santa Elena, Esmeraldas	.25
Other places	.30
Egypt (Alexandria)	.90
Esthonia	.83
Falkland Island (Port Stanley, *via* wireless)	.70
Finland	.80
Fiume	.66
Florida	.39
Formosa Island	1.48
Fox Bay (*via* wireless)	.82
France	.62
French Guiana	1.37
Galveston City (via Galveston)	.35
Georgia	.36
Germany	.65
Gibraltar	.76
Great Britain and Ireland	.60
Greece and Island	.75
Guadeloupe (*via* Haiti)	.95
Via W. I. and P	.97
Guam Island	1.17
Guatemala:	
San Jose	.20
Other places	.25
Haiti:	
Cape Haitien, Mole, St. Nicholas, Port-au-Prince	.65
Other places	.70
Via F. P. and wireless	.50
Hawaiian Islands (Honolulu)	.77
Holland	.65
Honduras (all places)	.25
Honduras (British), Belize	.42
Hungary	.73
Iceland	.68
Idaho	.42
Illinois	$0.36
India	1.01
Indiana	.36
Indian Territory	.39
Iowa	.39
Ireland	.60
Italy	.66
Ivory Coast	1.25
Japan (normal route)	1.48
Via Atlantic	1.66
Via San Francisco and wireless	1.27
Jap or Yap (Caroline Island)	1.48
Jugo-Slavia	.71
Kansas	.39
Kentucky	.36
Les Saintes	.95
Liberia	1.42
Liechtenstein	.67
Lithuania	.73
Louisiana and Texas (via Galveston)	.35
Louisiana (*via* New York)	.39
Luxemburg	.67
Madagascar	1.13
Maine	.33
Malta	.72
Manitoba (Canada)	.42
Marie Galante	.95
Martinique	.95
Maryland	.33
Massachusetts	.33
Mauritius Island	1.14
Mesopotamia	1.21
Mexico:	
Salina Cruz, Vera Cruz, Mexico City, Puerto Mexico	.30
All other places	.33
Michigan	.36
Minnesota	.39
Mississippi	.36
Missouri	.39
Monaco	.62
Montana	.39
Morocco (Tangier)	.76
Nassau, Bahama Island	.65
Nebraska	.39
Nevada	.42
New Brunswick, Canada	.36
Newfoundland	.44
New Hampshire	.33
New Jersey	.33
New Mexico	.39
New Orleans	.30
New York City	.30
New York (State)	.33
New Zealand	.98
Nicaragua:	
San Juan del Sur	.15
All other places	.20
North Carolina	.36
North Dakota	.39
Norway	.75
Nova Scotia (Canada)	.36
Ohio	.36
Oklahoma	.39
Ontario (Canada)	.36
Oregon	.42
Palestina	.84
Paraguay (all places)	.48
Pennsylvania	.33
Perim Island	1.09
Persia	1.15
Peru:	
Iquitos (*via* wireless)	.40
Paita, Callao, Lima, and Trujillo	.25
Other places	.30
Philippine Islands (Manila)	1.32
Other islands	1.50
Poland	.72
Porto Rico:	
Ponce, San Juan	.30
Other places	.33
All Porto Rico (*via* F. P. and wireless)	.45
Portugal	.75
Portuguese Timor	1.62
Quebec (Canada)	.36
Rhode Island	.33
Roumania	.73

Rate to—	Per word.	Rate to—	Per word.
Russia	$0.83	Texas (*via* New York)	$0.39
Salvador, La Libertad	.20	Trans-Jordania	.88
All other places	.25	Tunisia	.67
Sarawak, Borneo	1.59	Turkey in Asia	.83
Servia	.71	Turkey in Europe	.73
Siam	1.29	Union of South Africa	1.09
South Carolina	.36	Uruguay, Montevideo	.40
South Dakota	.39	Other places	.47
Spain:		Utah	.42
Via Havre	.73	Venezuela (*via* Cuba)	1.15
Direct route	.75	*Via* Trinidad and wireless	.84
St. Croix and St. Thomas	.67	Vermont	.33
Via F. P. and wireless	.45	Virginia	.36
Sweden	.78	Washington (State)	.42
Switzerland	.67	West Virginia	.36
Syria	.88	Wisconsin	.36
Tasmania	1.06	Wyoming	.39
Tennessee	.36		

DEFERRED AND WEEK-END LETTER RATES.

In connection with the rates quoted above for the All America Cables, the manager on the Isthmus has furnished the following regarding rates on deferred messages and week-end letters:

There is at present in force from the Isthmus of Panama, a deferred cable rate which is just half of the ordinary commercial cable rate. This rate is in force to practically all parts of the world including Central and South America. However, in the case of the latter the deferred messages will only be accepted at that rate when the message is destined to an office of this company. Messages destined for interior points where we have no office the full commercial rate is applied. Full paid commercial traffic naturally has precedence over deferred rate traffic. The latter, however, in no instance can be delayed for more than 24 hours, after which time it takes equal turn with full paid commercial traffic.

Weekend letters are accepted for the United States, Canada, Mexico and Europe.

The rate to New York and New Orleans is $2.00 for 20 words, or less, and 10 cents for each additional word.

To Canada 20 words, or less $2.60 plus 13 cents for every additional word.

To East Canada, 20 words or less $2.30 plus 11½ cents for every additional word.

To Mexico, $2.50 for 25 words, or less, plus 10 cents for each additional word.

To Europe, $4.50 for 20 words, or less, plus 15 cents for each additional word. The European letters are cabled to New York only and from there they are posted to the point of destination.

The weekend letters may be filed at any time during the week but are not transmitted until Saturday, and are prepared for delivery with the opening of business Monday morning. Registered code addresses to our own offices may be used. To points beyond our own offices they are accepted at sender's risk. They must bear the post office address and will be mailed from our nearest terminal office.

Deferred and weekend letter messages must be written in plain language of the country or origin or destination, code not being admissible. Numbers, except in addresses, must be written in words. The use of more than one language in the same message is not permitted.

NAVAL RADIO RATES.

The rates on commercial business sent or received through the Naval radio stations (Balboa, Colon and Cape Mala) are as follows:

Point.	Isthmian radio station charge.	Charge of receiving radio station.	Total for radio.	Total for messages of 5, 10, 15, and 20, words, if filed through Panama Railroad or Panama National telegraph office.			
				5 words.	*10 words.*	*15 words.*	*20 words.*
Government ships	$0.12	$0.04	$0.16	$0.80	$1.80	$2.60	$3.20
Ships other than U. S. Government including Shipping Board and Panama Railroad ships	.12	.08	.20	1.20	2.20	3.25	4.30
United Fruit Company's radio stations: Total charge, receiving and sending, $0.15							
Cartagena, Colombia	.10	.10	.20	1.20	2.20	3.25	4.30
La Palma and Puerto Obaldia, R. P.	.02	.02	.04	.40	.60	.85	1.10

THE PANAMA CANAL RECORD

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., June 27, 1923. No. 46.

Tug on Long Voyage.

The British tug *Lucienne* transited the Canal on June 20, en route from Rotterdam to Vancouver, coming by way of Las Palmas, Canary Islands.

The *Lucienne* is a vessel of only 110 gross tons, measuring 80 feet in length by 19.8 feet in beam. She maintains a speed of 9½ knots on a fuel consumption of 2 tons daily.

The distance from Rotterdam to Vancouver is approximately 9,000 nautical miles. The transatlantic trip to the Canal, comprising a little more than half of the total distance, was accomplished without mishap.

The *Lucienne* carried a crew of only 8 men. Tolls on her passage through the Canal amounted to $30.75.

Battleship Maryland Transits Canal.

The U. S. battleship *Maryland* transited the Canal June 19, en route to the Pacific coast. She will join the Pacific fleet off Seattle, which is concentrating in that vicinity for a review by President Harding in early July.

The *Maryland* is the latest type of the United States Naval dreadnaughts. She has a full displacement tonnage of 33,590 deadweight tons, is 624 feet in length over all, and has a breadth of 97 feet 3½ inches at load water line. At the time of transiting the Canal she carried a crew of 1,225 officers and men.

The *Maryland* participated in the combined fleet maneuvers held in Isthmian waters in February and March of this year, but was returned to Hampton Roads for installation of certain parts of her armament. She will now become a permanent unit of the battle fleet.

Kosmos Line in North Pacific Trade.

The German steamship *Bochum* of the Kosmos Line transited the Canal June 17, en route from Hamburg to Los Angeles and other Pacific coast ports.

It is reported that the Hamburg-American Line, which is affiliated with the United American Lines, and the Kosmos-Roland Lines have formed a working agreement whereby regular shipping service will be maintained between North European ports and the Pacific coast of North America direct, via the Panama Canal.

The European steamers of the American-Hawaiin Line, predecessors of the new service, returned to the Pacific by way of North Atlantic ports of the United States. The new arrangement is to afford regular and direct westbound service as well as eastbound. Sailings will be scheduled for every 3 weeks.

The *Bochum* carried 4,150 tons of cargo for North Pacific ports, and will load for the return voyage in July.

The "Oroya" Added to the Pacific Steam Navigation Company Services.

The steamship *Oroya*, of the Pacific Steam Navigation Company, arriving at Balboa on June 23, from Valparaiso via wayports for Europe, is on the homeward lap of her maiden voyage; on the outbound trip she passed through the Canal on May 18. The *Oroya* was launched at Belfast over 2 years ago, but completion was suspended on account of the slump in shipping until the early part of this year.

The new ship is of 12,257 gross tons, registry measurement, 525 feet in length by 63 feet beam, and the second in size to the *Oropesa* in the fleet of "O" ships operated in the Pacific Steam Navigation Company's service between Europe and the west coast of South America. The others in the fleet are the *Orcoma*, *Orita*, *Ortega*, and *Oriana*. Sailings average about two a month in each direction. In the Atlantic the ports of call are Cristobal, Habana, Vigo, Corunna, Santander, La Rochelle-Pallice and Liverpool.

The Pacific Steam Navigation Company also operates the following other passenger services through the Canal:

Between New York and Valparaiso, using the *Ebro* and the *Essequibo*, with sailings approximately every 4 weeks; a service between the Atlantic terminus of the Canal (Cristobal), and Colombian and Ecuadorian ports, sailings approximately every 4 weeks; a service between Cristobal and the west coast of Central America, as far north as Champerico.

Spanish Transatlantic Company Extends Its Service to the South Pacific Coast.

The Compañia Trasatlantica de Barcelona (Spanish Line) has extended its sailings to the west coast of South America, the new service being inaugurated by the passage of the steamship *Manuel Arnus* on June 16.

The *Manuel Arnus* was built at Cadiz, Spain, and has a registered tonnage of 7,578 gross and 4,402 net. She has 1st, 2d, and 3d class passenger accommodations, and on her initial voyage carried 64 passengers, of which 48 disembarked at Cristobal.

Passengers and cargo from Canal ports will be accepted by the new service.

Vessels Anchoring in Harbors to Display Black Ball on Fore Stay.

Following the regulation which has been established in United States ports, the Captains of the Port at Cristobal and Balboa have issued circulars requiring all vessels anchoring in the harbors of the Canal terminals (Cristobal and Balboa) to display a black ball on the fore stay while the ship is at anchor.

Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., June 26, 1923.

The following message was received by the Chief Hydrographer through the Balboa radio:

"U. S. S. *Argonne*, 7.00 p. m., June 25. Sighted obstruction, menace to navigation, apparently log raft 1,000 feet by 60 feet floating awash. Latitude 12° 49′ 31″ North, Longitude 88° 26′ West. No signature."

JAY J. MORROW,
Governor.

CANAL WORK IN MAY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of May, 1923:

BALBOA HEIGHTS, C. Z., June 22, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report covering the operations of The Panama Canal during the month of May, 1923:

CARGO, NET TONNAGE, AND TOLLS RECORDS.

The total cargo carried through the Panama Canal during May was 2,265,083 tons. This is a new high record; the previous record cargo was that of April, 1923, which was 2,187,145 tons.

The net tonnage of vessels, Panama Canal measurement, also established a new high record, and amounted to 2,128,414 tons, as compared with the previous record of last month of 2,007,690 net tons.

The tolls collected amounted to $1,972,216.04, establishing a new high record for tolls; the previous record for tolls was $1,878,938.15, in April, 1923.

The number of commercial ships passing through the Canal during May was 419, or 10 in excess of the previous record of 409, established in March, 1923. The number of commercial and Government ships and launches combined was 442 in May. This was 79 less than the record of 521 made in March of this year, when 106 noncommercial vessels (Army and Navy) passed through the Canal.

New records were established in May in all major features of commercial traffic; and in all features of combined commercial and noncommercial movement except the aggregate number of ships.

NUMBER OF TRANSITS.

The number of transits through the Canal in May was 419 commercial, 13 noncommercial oceangoing vessels, and 10 launches, a total of 442. The average daily number of commercial transits was 13.52 as compared with 13.47 in April and 13.19 in March, 1923.

The total number of vessels and craft of all kinds transiting the Canal during the month of May, 1923, as compared with May, 1922, and May, 1921, is shown in the following table:

	May, 1923.	May, 1922.	May, 1921.
Commercial vessels	419	243	210
Noncommercial vessels (Army and Navy)	13	18	30
Launches, etc. (under 20 tons measurement)	10	6	6
Total vessels and craft through Canal	442	267	246

In addition to the vessels listed above, Panama Canal equipment, consisting of dredges, tugs, barges, launches, etc., was passed through the Locks as follows:

	Northbound.	Southbound.	Total.
Gatun	12	8	20
Pedro Miguel	34	20	54
Miraflores	30	19	49

COMMERCIAL TRAFFIC.[1]

The steady growth of traffic through the Canal during the present fiscal year, with a comparison of the traffic during the same period of the preceding fiscal year, is shown in the following table:

[1] Commercial traffic includes all oceangoing vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "Noncommercial traffic."

Month.	Number of ships.		Panama Canal net tonnage.		Cargo tonnage.		Tolls.	
	Fiscal year.		Fiscal year.		Fiscal year.		Fiscal year.	
	1922.	1923.	1922.	1923.	1922.	1923.	1922.	1923.
July	206	251	810,613	1,127,871	708,982	1,211,100	$804,503.11	$1,094,127.42
August	236	257	965,276	1,084,133	839,273	1,165,950	955,380.78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,138,188	892,001.54	1,020,064.55
October	255	294	1,069,554	1,310,392	985,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,280	855,440	1,426,860	923,048.70	1,264,436.54
December	239	304	1,017,244	1,375,263	953,053	1,535,102	1,003,598.27	1,312,570.12
January	210	352	846,516	1,610,692	807,298	1,591,932	847,767.55	1,505,285.55
February	212	326	886,535	1,529,547	838,074	1,563,278	866,266.18	1,423,954.21
March	234	409	975,811	1,988,192	960,089	1,940,928	956,726.76	1,827,718.44
April	230	404	974,833	2,007,690	1,046,047	2,187,145	953,256.11	1,878,938.15
May	243	419	1,032,816	2,128,414	1,158,507	2,265,083	1,015,057.37	1,972,216.04
Totals for 11 months	2,508	3,550	10,446,746	16,569,884	9,907,432	17,471,429	10,265,541.99	15,610,155.77

The increase in commercial traffic for the first 11 months of the present fiscal year over the corresponding period of the last fiscal year has been 41 per cent in point of number of vessels, 58 per cent in Panama Canal net tonnage, 76 per cent in cargo tonnage, and 52 per cent in tolls.

The following is a summary of traffic in May, 1923, as compared with May, 1922, and May, 1921, and the average month's traffic for the calendar year 1922:

	May, 1923.	May, 1922.	May, 1921.	Average per month for calendar year 1922.
Number of vessels	419	243	210	250
U. S. equivalent tonnage	1,725,399	828,683	694,896	864,647
Panama Canal net tonnage	2,128,414	1,032,816	864,617	1,082,714
Registered gross tonnage	2,740,038	1,297,553	1,092,602	1,359,595
Registered net tonnage	1,730,789	822,290	692,747	958,176
Tolls	$1,972,216.04	$1,015,057.37	$835,882.77	$1,047,783.98
Tons of cargo carried	2,265,083	1,158,507	792,735	1,142,546

The average daily number of transits, tonnage, tolls and cargo are shown in the following statement in comparative form:

	May, 1923.	May, 1922.	May, 1921.	Average per day for calendar year 1922.
Number of transits	13.52	7.84	6.77	8.2
Panama Canal net tonnage	68,658	33,316	27,891	35,596
Tolls	$63,619.87	$32,743.78	$26,963.96	$34,447.69
Tons of cargo carried	73,067	34,145	25,572	37,563

From the foregoing it will be seen that as compared with the month of May, 1922, the number of commercial transits in May, 1923, increased 72 per cent; the Panama Canal net tonnage, 106 per cent; the tolls, 94 per cent; and cargo, 95 per cent.

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO PER VESSEL.

The average tonnage, tolls and cargo per vessel transiting the Canal during the month of May, 1923, as compared with May, 1922, and May, 1921, are shown in the following statement:

	Average per vessel.		
	May, 1923.	May, 1922.	May, 1921.
U. S. equivalent net tonnage	4,118	3,410	3,309
Panama Canal net tonnage	5,079	4,250	4,117
Registered gross tonnage	6,539	5,340	5,203
Registered net tonnage	4,131	3,384	3,299
Tolls	$4,706.96	$4,177.12	$3,980.39
Tons of cargo (including vessels in ballast)	5,406	4,356	3,775
Tons of cargo (laden vessels only)	7,104	5,149	4,086

The average tonnage, tolls, and cargo per vessel during the month of May, 1923, are higher than for any previous month of Canal traffic; this is due primarily to the many large ore and tank ships using the Canal at this time.

UNITED STATES INTERCOASTAL TRAFFIC.

The United States intercoastal traffic exceeded that of any previous month, in number of ships, tonnage and cargo carried.

The following statement, giving a summary of the intercoastal traffic through the Canal for the month of May for the past 4 years, indicates the great increase in traffic over this route:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of vessels.	Panama Canal net. tonnage.	Cargo tonnage.	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.
May, 1920	7	28,090	28,205	9	40,287	60,832
May, 1921	19	82,257	90,617	16	75,593	93,242
May, 1922	32	152,260	173,128	23	108,686	108,319
May, 1923	112	615,836	311,625	93	534,559	916,104

In point of tonnage, tolls and cargo, the United States intercoastal traffic made up slightly more than one-half of the total traffic passing through the Canal during the month. Approximately six-sevenths of the total tonnage passing through the Canal under the United States flag was engaged in the intercoastal trade.

UNITED STATES SHIPPING BOARD VESSELS.

Twenty-four vessels of the United States Shipping Board transited the Canal during the month of May, 1923; of these 16 were employed in the United States intercoastal trade; 13 of the 24 vessels were tankers and 11 were general cargo carriers. The following table shows the number, aggregate net tonnage, and cargo tonnage of Shipping Board vessels transiting the Canal during the month of May for the past 3 years:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.
May, 1921	9	39,614	48,489	21	97,257	114,107
May, 1922	13	68,285	89,483	9	42,499	50,953
May, 1923	12	61,691	37,588	12	62,046	108,715

ORIGIN AND DESTINATION OF TONNAGE.

The following statement shows the origin and destination of all tonnage passing through the Canal during the month of May, 1923, by principal geographical areas, as compared with May, 1922, and May, 1921; the figures show the net tonnage of vessels as determined by the Panama Canal rules of measurement:

	May, 1923.	May, 1922.	May, 1921.
Origin, Pacific-bound tonnage.			
East coast of United States	843,449	403,970	231,751
Europe (including British Isles)	209,057	118,012	107,404
East coast of Mexico	14,723	26,305	48,151
Cristobal, C. Z.	22,593	22,529	20,612
East coast of South America	9,287	9,196	622
Miscellaneous	40,552	14,701	5,889
Totals	1,139,661	594,713	414,429
Destination, Pacific-bound tonnage.			
West coast of United States	729,396	184,282	125,091
West coast of South America	153,804	142,801	103,143
Australasia	94,173	49,410	82,582
Far East	117,231	173,176	82,499
Canada, west coast	40,039	33,771	12,128
West coast of Mexico and Central America	5,018	6,273	8,986
Totals	1,139,661	594,713	414,429

	May, 1923.	May, 1922.	May, 1921.
Origin, Atlantic-bound tonnage.			
West coast of United States	629,613	170,412	174,128
West coast of South America	165,119	133,033	137,258
Australasia	42,707	41,334	81,258
Far East	55,422	24,388	12,407
Canada, west coast	88,194	56,680	34,186
West coast of Mexico and Central America	7,698	12,256	10,951
Totals	988,753	438,103	450,188
Destination, Atlantic-bound tonnage.			
East coast of United States	703,708	224,244	140,940
Europe (including British Isles)	181,724	165,143	201,538
Mexico, east coast	56,218	17,474	73,705
Cristobal, C. Z.	23,251	16,637	21,549
South America, east coast	.....	4,873	.....
Miscellaneous	23,852	9,732	12,456
Totals	988,753	438,103	450,188

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of May, 1923, was $1,972,216.04. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from tolls would have been increased by $346,947.64, distributed by nationality of vessels as follows:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$37,352.29	$33,620.70	$70,972.99
Chilean	4,075.95	4,074.30	8,150.25
Danish	1,810.35	3,668.15	5,478.50
Dutch	6,280.75	7,419.15	13,699.90
French	2,415.90	619.55	3,035.45
German	4,696.50	5,768.25	10,464.75
Italian	606.25	433.75	1,040.00
Japanese	4,716.30	2,642.70	7,359.00
Norwegian	3,045.40	4,557.35	7,602.75
Panaman	.....	1,105.95	1,105.95
Peruvian	5,328.90	3,315.75	8,644.65
Spanish	774.80	.....	774.80
Swedish	1,856.25	4,795.40	6,651.65
United States	67,148.82	134,818.18	201,967.00
Totals	140,108.46	206,839.18	346,947.64

The additional revenue that would have been assessed against vessels of United States registry would have been made up, with respect to channels of trade in which the vessels were engaged, as follows:

	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	$47,171.94	$103,814.53	$150,986.47
United States—foreign trade	17,270.28	29,124.40	46,394.68
United States—Canal Zone trade	.....	1,150.65	1,150.65
United States—Hawaii trade	2,213.55	.....	2,213.55
Foreign trade	493.05	728.60	1,221.65
Totals	67,148.82	134,818.18	201,967.00

Of the additional $346,947.64 tolls that would have been collected by using exclusively the Panama Canal rules of measurement, $14,858.40 represents the portion that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in May, 1923, is shown in the following table, segregated by nationality of vessels; laden cargo vessels only are included:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.07	1.29	1.19
Chilean	.24	.23	.23
Colombian	1.41	.....	1.41
Danish	1.10	1.54	1.36
Dutch	.79	1.37	1.03
French	1.01	1.74	1.29
German	.58	1.50	.98
Italian	.23	.33	.28
Japanese	1.24	1.29	1.27
Norwegian	1.58	1.55	1.57
Panaman	.....	1.51	1.51
Peruvian	35	.57	.43
Spanish	.06	.....	.06
Swedish	1.17	1.50	1.41
United States	1.39	1.70	1.61
Average ratio, May, 1923	1.17	1.56	1.41
Average ratio, May, 1922	1.19	1.17	1.18
Average ratio, May, 1921	.95	1.09	1.02

It is noted that the loading ratio in May was higher for United States vessels than those of any other nationality. This is the first month in which such has been the case during the current fiscal year.

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

Route.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	.50	1.71	1.06
United States and South America	.35	1.69	1.12
United States and Europe	.42	1.64	.82
United States and Far East	1.45	.87	1.26
Europe and South America	.59	1.09	.83
Europe and Australasia	.69	.95	.78
Europe and Canada	1.12	1.49	1.39
Cristobal, C. Z., and South America	.19	.31	.24
United States and Australasia	1.32	.90	1.21
United States and Canada	1.62	1.42	1.48

COMMODITY STATISTICS.

Cargo moving through the Canal during the month of May, 1923, totaled 2,265,083 long tons, and was practically double the total amount of cargo passing through the Canal in May, 1922 (which was 1,158,507 tons). There were 742,351 tons of cargo routed from Atlantic to Pacific ports, and 1,522,732 tons,—or more than double the Atlantic-to-Pacific cargo—were routed from Pacific to Atlantic ports. Mineral oils constituted more than one-half of the cargo passing from the Pacific to the Atlantic, with a total of 926,561 tons, as compared with 41,789 tons in May, 1922.

The following commodity statistics are compiled from cargo declarations and manifests submitted by masters of vessels at the time of transit and, while incomplete, are indicative of the kind and quantity of commodities carried by vessels transiting the Canal. A brief summary of the principal items is indicated below, the figures representing tons of 2,240 pounds.

Commodity.	May, 1923.	May, 1922.	May, 1221.
Atlantic to Pacific.			
Manufactured goods:			
Iron and steel	166,126	195,005	51,824
Railroad material	16,227	18,139	10,752
Machinery	12,900	20,347	9,416
Textiles and miscellaneous	14,659	13,260	5,709
Mineral oils:			
Crude	18,358	41,848	87,720
Lubricating	10,785	3,587	.....
Refined	51,345	97,091	47,371
Metals, various	38,602	16,627	6,627
Coal and coke	23,825	21,075	26,096
Cotton	8,552	3,943	9,514
Ammonia	19,145	116	2,052
Automobiles	5,214	286	294

Commodity.	May, 1923.	May, 1922.	May, 1921.
Atlantic to Pacific.—Continued.			
Cement	17,358	3,995	3,121
Paper	11,429	9,102	863
Sulphur	19,663	12,373	10,500
Other and general	307,863	216,604	109,464
Totals	742,351	673,398	381,323
Pacific to Atlantic.			
Mineral oils:			
Crude petroleum	871,411	19,264	.....
Lubricating oil	6	.....	.....
Refined	55,144	22,525	44
Nitrates	66,618	29,565	43,504
Lumber	141,697	96,637	31,099
Barley	10,322	18,411	7,294
Borax	8,457	3,646	1,850
Canned goods	16,459	12,963	10,116
Coffee	11,219	13,334	9,476
Cold storage	10,738	12,023	34,146
Metals, various	37,533	15,892	12,170
Ores, various	85,508	35,465	10,420
Phosphates	8,800	.....	.....
Rice	10,677	1,290	4,901
Sugar	25,724	35,398	41,571
Wheat	53,203	71,697	91,620
Wool	8,487	14,147	15,125
Other and general	100,729	82,852	98,076
Totals	1,522,732	485,109	411,412

The cargo moving from the Atlantic to the Pacific in May, 1923, amounted to 742,351, as compared with 673,398 tons in May, 1922. The cargo moving from the Pacific to the Atlantic in May, 1923, amounted to 1,522,732 tons as compared with 485,109 tons in May, 1922, or an increase of approximately 214 per cent in 1 year.

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of May, 1923, was published in THE PANAMA CANAL RECORD of June 20, 1923. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo moving over the principal trade routes during the month of May, 1923, as compared with the traffic through the Canal over these routes for the same month in the years 1922 and 1921:

Route.	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	May, 1923.	May, 1922.	May, 1921.	May, 1923.	May, 1922.	May, 1921.
United States coastwise ports	112	32	19	93	23	16
United States and South America	14	13	11	18	19	16
Europe and South America	16	11	9	15	8	10
United States and Far East	21	32	16	8	5	3
Europe and United States	15	5	4	6	11	15
Europe and Canada	5	4	1	9	7	2
Europe and Australasia	6	3	7	5	5	10
United States and Australasia	9	3	6	3	1	1
Mexico and South America	2	5	3	1	3	7
Cristobal, C. Z., and South America	7	10	9	4	8	10
United States and Canada	3	2	1	7	4	1
Miscellaneous	19	14	14	21	15	19
Totals	229	134	100	190	109	110
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States coastwise ports	615,836	152,260	82,257	534,559	108,686	75,593
United States and South America	49,497	55,713	36,887	66,438	64,825	42,873
Europe and South America	74,175	44,611	34,972	68,578	36,327	41,831
United States and Far East	117,231	169,435	76,114	55,422	24,388	12,407
Europe and United States	61,673	23,309	19,986	30,826	55,260	74,933
Europe and Canada	22,604	24,114	4,995	51,753	37,041	8,573
Europe and Australasia	48,073	23,804	47,451	27,814	32,230	76,211
United States and Australasia	41,914	15,986	29,360	14,893	4,944	4,875
Mexico and South America	9,412	23,979	15,308	4,723	12,989	36,282
Cristobal, C. Z., and South America	15,030	17,876	15,354	11,669	13,334	16,272
United States and Canada	13,556	9,657	7,133	32,396	19,639	5,020
Miscellaneous	70,660	33,969	44,612	89,682	28,440	55,318
Totals	1,139,661	594,713	414,429	988,753	438,103	450,188

Route.	Atlantic to Pacific. Tons of cargo carried.			Pacific to Atlantic. Tons of cargo carried.		
	May, 1923.	May, 1922.	May, 1921.	May, 1923.	May, 1922.	May, 1921.
United States coastwise ports	311,625	173,128	90,617	916,104	108,319	93,242
United States and South America	17,918	28,546	25,942	112,129	81,393	50,597
Europe and South America	43,688	37,547	17,247	74,725	49,546	49,546
United States and Far East	170,616	264,900	82,537	47,910	35,955	9,883
Europe and United States	25,512	19,522	7,522	50,875	92,495	112,892
Europe and Canada	25,452	15,569	.....	77,015	52,449	15,165
Europe and Australasia	33,162	14,935	23,101	26,562	21,469	51,163
United States and Australasia	55,502	18,710	31,488	13,541	1,065	370
Mexico and South America	18,318	44,109	29,012	.....	.....	.....
Cristobal, C. Z., and South America	2,823	3,132	2,302	3,598	5,218	7,294
United States and Canada	21,936	15,300	4,400	46,207	21,322	3,775
Miscellaneous	15,799	38,000	67,155	153,066	15,878	17,485
Totals	742,351	673,398	381,323	1,522,732	485,109	411,412

LATIN-AMERICAN TRAFFIC.

Tonnage moving southbound through the Canal to Latin-American ports showed an increase over the month of May for the 2 preceding years; the cargo tonnage, however, shows a notable decrease. Northbound traffic from Latin-America in point of both tonnage and cargo shows a decided increase over that of a year ago.

The principal commodities routed to Latin America were fuel oil, manufactured goods, coal and coke, cement and paper; while nitrates, ores, crude oil, and metals made up the bulk of the commodities routed from Latin America.

Nitrate shipments showed a sharp curtailment during the month. Only 66,618 tons passed through the Canal during May, as compared with 197,983 tons for the preceding month, and 222,086 tons for March, 1923.

In the tabulation below are shown the tonnage and cargo of all vessels routed to and from Latin America, segregated by nationality of vessels:

Nationality.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific.							
British	17	47,217	55,915	76,626	46,234	$50,936.02	26,696
Chilean	3	6,753	10,431	13,640	7,758	8,441.25	2,494
Colombian	1	334	335	864	614	402.00	474
Danish	1	2,380	2,339	2,827	1,826	2,806.80	2,024
Dutch	3	12,982	17,124	20,773	13,007	16,227.50	12,481
French	1	3,631	4,166	5,818	3,712	4,538.75	1,435
German	5	15,750	20,275	23,819	14,679	19,687.50	11,825
Italian	2	6,814	7,498	9,874	6,025	8,391.35	1,708
Japanese	1	4,081	5,077	6,586	4,038	5,101.25	5,100
Norwegian	3	6,856	9,139	10,630	6,548	7,870.95	5,250
Panaman	1	24	27	40	19	19.44	.....
Peruvian	4	6,070	10,697	15,953	8,607	7,587.50	3,735
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	217
United States	11	41,609	50,511	70,098	41,019	42,879.24	22,109
Totals, May, 1923	54	157,461	197,263	262,188	156,807	178,589.55	95,548
Totals, May, 1922	50	130,383	166,380	219,045	133,295	152,726.17	140,255
Totals, May, 1921	44	111,120	141,244	188,846	114,821	137,893.60	135,262
Pacific to Atlantic.							
British	22	93,035	109,995	150,060	93,823	114,033.46	153,925
Chilean	3	6,786	10,464	13,727	7,766	8,482.50	2,412
Danish	1	2,256	3,468	3,718	2,307	2,820.00	6,286
Dutch	3	6,526	10,587	10,521	6,509	8,157.50	14,640
French	1	4,326	4,363	5,903	3,743	5,235.60	7,010
German	3	8,644	11,243	14,313	8,780	10,805.00	16,536
Italian	2	7,357	8,025	12,516	7,451	9,196.25	2,634
Japanese	1	4,349	4,700	5,783	4,254	5,436.25	8,240
Norwegian	2	7,629	9,668	12,370	7,686	9,536.25	18,560
Panaman	3	6,201	7,383	9,830	6,247	7,740.69	11,165
Peruvian	2	3,021	5,910	9,361	5,100	3,776.25	3,369
United States	14	37,164	45,143	70,245	42,959	46,111.70	81,265
Totals, May, 1923	57	187,294	230,949	318,347	196,625	231,331.45	326,042
Totals, May, 1922	50	119,900	151,741	196,681	121,404	141,732.10	150,435
Totals, May, 1921	57	146,917	182,164	238,836	150,240	157,245.85	116,236

TRAFFIC BY NATIONALITY.

Vessels of United States registry made up 60 per cent of the total transits through the Canal during the month, comprised approximately 64 per cent of the net tonnage, and carried 66 per cent of the total cargo in transit through the Canal.

The following statement shows the commercial traffic transiting the Canal during May, 1923, classified according to nationality of vessels, and then showing the combined traffic in both directions:

Nationality.	No. of vessels.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	54	210,563	257,587	333,828	208,462	$236,704.43	198,713
Chilean	3	6,753	10,431	13,640	7,758	8,441.25	2,494
Colombian	1	334	335	864	614	402.00	474
Danish	2	5,365	6,957	7,577	4,832	6,538.05	7,861
Dutch	4	18,745	24,743	30,111	18,815	23,431.25	19,319
French	3	11,322	13,807	18,106	11,330	14,152.50	13,614
German	5	15,750	20,275	23,819	14,679	19,687.50	11,825
Italian	2	6,814	7,498	9,874	6,025	8,391.35	1,708
Japanese	9	38,390	43,471	56,909	37,648	47,458.50	52,350
Norwegian	6	16,123	21,143	25,724	15,861	17,849.72	18,750
Panaman	1	24	27	40	19	19.44	.....
Peruvian	4	6,070	10,697	15,953	8,607	7,587.50	3,735
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	217
Swedish	1	2,259	3,900	3,805	2,833	2,823.75	4,592
United States	133	589,938	715,061	922,204	589,111	589,761.82	406,699
Totals, May, 1923	229	931,410	1,139,661	1,467,094	929,315	986,949.06	742,351
Totals, May, 1922	134	472,852	594,713	742,419	467,705	578,433.82	673,398
Totals, May, 1921	100	334,894	414,429	529,408	334,322	412,934.09	381,323
Pacific to Atlantic.							
British	38	170,669	204,812	273,891	172,592	210,516.66	257,737
Chilean	3	6,786	10,464	13,727	7,766	8,482.50	2,412
Danish	2	5,573	8,771	9,014	5,618	6,966.25	13,551
Dutch	4	11,073	17,643	17,831	11,004	13,841.25	24,191
French	2	8,543	9,272	12,914	7,886	10,506.85	16,210
German	4	11,619	16,131	18,904	11,632	14,523.75	24,116
Italian	2	7,357	8,025	12,516	7,451	9,196.25	2,634
Japanese	3	12,234	14,943	18,601	12,127	15,292.50	19,188
Norwegian	5	18,557	23,128	29,869	18,668	23,196.25	35,860
Panaman	3	6,201	7,383	9,830	6,247	7,740.69	11,165
Peruvian	2	3,021	5,910	9,361	5,100	3,776.25	3,369
Swedish	2	6,500	10,767	10,848	7,048	8,125.00	16,124
United States	120	525,856	651,504	835,638	528,335	653,102.78	1,096,175
Totals, May, 1923	190	793,989	988,753	1,272,944	801,474	985,266.98	1,522,732
Totals, May, 1922	109	355,831	438,103	555,134	354,585	436,623.55	485,109
Totals, May, 1921	110	360,002	450,188	563,194	358,425	422,948.68	411,412
Combined traffic.							
British	92	381,232	462,399	607,719	381,054	447,221.09	456,450
Chilean	6	15,539	20,895	27,367	15,524	16,923.75	4,906
Colombian	1	334	335	864	614	402.00	474
Danish	4	10,938	15,728	16,591	10,450	13,504.30	21,412
Dutch	8	29,818	42,386	47,942	29,819	37,272.50	43,510
French	5	19,865	23,079	31,020	19,216	24,659.35	29,824
German	9	27,369	36,406	42,723	26,311	34,211.25	35,941
Italian	4	14,171	15,523	22,390	13,476	17,587.60	4,342
Japanese	12	50,624	58,414	75,510	49,775	62,751.00	71,538
Norwegian	11	34,680	44,271	55,593	34,529	41,045.97	54,610
Panaman	4	6,225	7,410	9,870	6,266	7,760.13	11,165
Peruvian	6	9,091	16,607	25,314	13,707	11,363.75	7,104
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	217
Swedish	3	8,759	14,667	14,653	9,881	10,948.75	20,716
United States	253	1,115,794	1,366,565	1,757,842	1,117,446	1,242,810.60	1,502,874
Totals, May, 1923	419	1,725,399	2,129,074	2,740,038	1,730,789	1,972,216.04	2,262,116
Totals, May, 1922	243	828,683	1,032,816	1,297,553	822,290	1,015,057.37	1,158,507
Totals, May, 1921	210	694,896	864,617	1,092,602	692,747	835,882.77	792,735

VESSELS WITHOUT CARGO.

The number of ships transiting the Canal in ballast is shown in the following statement, the vessels being grouped according to flag:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
British	14	66,171	$47,800.08	1	4,723	$3,400.56
Norwegian	1	4,066	2,927.52			
United States	68	408,990	296,637.02			
General cargo ships:						
British	3	6,388	4,730.85			
British yacht	1	457	329.25			
Norwegian	2	5,260	3,787.20			
Japanese	1	5,415	[1] 6,337.50			
Panaman	1	27	19.44	1	27	19.44
United States	3	13,670	9,846.72	3	10,658	7,757.73
United States yacht	1	287	206.64			
Totals	95	510,731	372,622.22	5	15,408	11,177.73

[1] Tolls collected at laden rate on account of excess fuel supply in bunkers.

CLASSIFICATION OF VESSELS.

A further classification of commercial traffic through the Canal during the month of May, 1923, by kind of vessels, is shown below:

Class.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
Laden	8	40,253	$40,217.50	82	497,084	$519,784.61
Ballast	83	479,227	347,364.62	1	4,723	3,400.56
General cargo and passenger ships:						
Laden	126	588,677	574,109.34	103	476,261	454,304.64
Ballast	12	31,504	25,257.60	4	10,685	7,777.17
Totals	229	1,139,661	986,949.06	190	988,753	985,266.98
Steamers	221	1,117,573	966,467.48	185	969,764	967,420.23
Motor vessels	4	21,245	19,847.50	4	18,565	17,457.50
Motor schooners	2	99	98.19			
Yachts	2	744	535.89	1	424	389.25
Totals	229	1,139,661	986,949.06	190	988,753	985,266.98

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of May, 1923. If tolls had been assessed against these vessels at commercial rates, the amount of tolls would have been approximately as indicated:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.	Tolls.	No. of ships.	Tonnage.	Tolls.
U. S. Navy vessels:						
Cruiser				1	[2] 3,000	$1,500.00
Supply ship	1	[1] 3,902	$3,825.00	2	[3] 8,723	10,467.60
Submarines	2	[2] 990	495.00	2	[2] 990	495.00
Tugs	2	[2] 1,750	875.00	1	[2] 750	375.00
U. S. Army vessels:						
Transport	1	[1] 7,027	8,432.40			
Launch				1	[3] 16	11.52
Totals	6	[1] 10,929 [2] 2,704	13,627.40	7	[2] 4,740 [3] 8,739	12,849.12

[1] Panama Canal net tonnage. [2] Displacement tonnage. [3] Registered net tonnage.

The foregoing noncommercial vessels transiting the Canal free of tolls, carried cargo as follows:

	Tons.
Atlantic to Pacific	8,985
Pacific to Atlantic	2,026

The following statement shows the number of launches and barges transiting the Canal during the month; these vessels, though paying tolls, are excluded from the statement of commercial traffic:

	Number.	Tonnage.	Tolls.
Atlantic to Pacific	7	52	$41.70
Pacific to Atlantic	3	7	5.25

The barges included above were 2 small local craft, measuring 17 tons each. Large barges in oceangoing traffic are classed with the commercial traffic.

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of May, 1923, are shown in the following tabulation:

		Cristobal.	Balboa.	Total.
Local cargo arriving	tons	61,340	47,447	108,787
Local cargo shipped	tons	3,364	699	4,063
Transit cargo arriving	tons	2,208,488	2,232,482	4,440,970
Transit cargo clearing	tons	2,233,799	2,238,719	4,472,518
Cargo received for transshipment	tons	26,050	46	26,096
Cargo transshipped	tons	26,543	306	26,849
Vessels supplies with bunker coal:				
Army vessels		2	.....	2
Commercial, other than Panama Railroad		47	2	49
Panama Railroad vessels		2	.....	2
Total vessels supplied with coal		51	2	53
Coal supplied to above vessels:				
Army vessels	tons	653	.....	653
Commercial, other than Panama Railroad	tons	16,349	14	16,363
Panama Railroad vessels	tons	742	.....	742
Total coal supplied to vessels	tons	17,744	14	17,758
Coal issues, miscellaneous:				
Panama Canal departments	tons	358	836	1,194
U. S. Army, excepting vessels	tons	338	2	340
Individuals and companies	tons	251	.....	251
[1] Transferred to Navy account	tons	.....	8,000	8,000
Total coal issued from Panama Canal deposits:				
May, 1923	tons	18,691	852	19,543
May, 1922	tons	11,664	3,067	14,731
May, 1921	tons	36,465	968	37,433
Coal on hand, June 1, 1923	tons	69,778	3,069	72,847
Coal on hand, May 1, 1923	tons	68,436	11,921	80,357
Coal received during the month	tons	12,033	.....	12,033
[1] Coal received from Navy	tons	8,000	.....	8,000
Fuel oil issues from Panama Canal tanks:				
To Panama Canal departments	bbls	5,751	14,324	20,075
Panama Railroad Company	bbls	398	.....	398
Army and Navy	bbls	532	110	642
Total issues and sales	bbls	6,681	14,434	21,115
Fuel oil on hand June 1, 1923	bbls	12,647	7,384	20,031
Inventory overage	bbls	1,288	124	1,412
Diesel oil issued during May, 1923	bbls	10	.....	10
Diesel oil sold during May, 1923	bbls	33	.....	33
Inventory overage	bbls	74	.....	47
Diesel oil on hand, June 1, 1923	bbls	43,267	843	44,110
Oil pumped for individuals and companies	bbls	430,631	728,455	1,159,086
Miscellaneous transfers	bbls	.....	4,130	4,130
Gasoline pumped for Panama Canal	bbls	.....	1,331	1,331
Gasoline pumped for individuals and companies	bbls	.....	1,738	1,738
Total fuel oil and gasoline handled	bbls	437,355	750,088	1,187,443

[1] These 8,000 tons of coal were delivered to Navy at Balboa and received from Navy at Cristobal.

	Cristobal.	Balboa.	Total.
Admeasurement certificates of vessels:			
U. S. equivalent issued or made	30	6	36
Measured for Panama Canal net tonnage	5	2	7
Remeasured for Panama Canal net tonnage	26	3	29
Panama Canal net tonnage corrected	18	9	27
U. S. equivalent tonnage corrected	32	16	48
Services of harbor equipment:			
Tugs, total operating hours	381	333	714
Launches, total operating hours	1,284	1,988	3,272
Scows, total operating days	.....	1	1
Revenue from tug service, pilotage, etc.:			
Tug service	$11,862.50	$10,368.00	$22,230.50
Launch service	1,940.50	3,509.50	5,450.00
Pilotage	12,731.00	9,224.00	21,955.00
Seamen	7,796.00	6,824.00	14,620.00
Wharfage	.....	5,851.96	5,851.96
Ships measured	270.00	50.00	320.00
Miscellaneous cash collections	1,179.65	761.00	1,940.65
Vessels repaired at Panama Canal shops:			
Commercial	39	21	60
U. S. Army and Navy	1	8	9
Canal equipment	3	15	18
Vessels dry-docked:			
Commercial	5	2	7
U. S. Army and Navy	1	2	3
Canal equipment	2	3	5
Clearances issued	238	228	466
Bills of health issued	231	228	459

ALL VESSELS ENTERING AND CLEARING PORT.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of May, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	464	3,001,954	1,889,501	441	2,831,734	1,785,047
Vessels entering the port but not transiting Canal	53	295,873	164,169	9	45,612	27,131
Vessels transiting Canal and handling passengers and cargo at terminals	67	397,144	241,839	54	299,772	184,404
Ships clearing.						
All vessels, including those transiting Canal	469	3,020,183	1,901,677	440	2,834,909	1,786,449
Vessels entering the port but not transiting Canal	53	295,873	164,169	10	47,380	28,116
Vessels transiting Canal and handling passengers and cargo at terminals	69	388,330	235,463	54	302,419	186,109

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of May, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	879	1,173	2,052	14	2	16
From Pacific ports	159	83	242	95	21	116
Total disembarking	1,038	1,256	2,294	109	23	132
Embarking:						
For Atlantic ports	1,289	1,280	2,569	31	32	63
For Pacific ports	205	51	256	49	40	89
Total embarking	1,494	1,331	2,825	80	72	152

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Remaining on board vessels:						
From Atlantic to Pacific ports	606	1,829	2,435	644	2,232	2,876
From Pacific to Atlantic ports	997	855	1,852	1,124	1,047	2,171
From Atlantic to Atlantic ports	516	700	1,216	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	9	141	150
Total remaining on board	2,119	3,384	5,503	1,777	3,420	5,197
Total passengers arriving	3,157	4,640	7,797	1,886	3,443	5,329
Total passengers departing	3,613	4,715	8,328	1,857	3,492	5,349

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of May, 1923:

	Ice.	Cold storage.	Groceries.	Miscellaneous.	Laundry.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$192.38	$802.00	$225.72	$183.63	.....	$1,403.73
Panama Railroad vessels	64.80	2,396.66	11.39	497.20	.....	2,970.05
Other commercial vessels	887.12	11,514.54	4,416.85	2,464.50	.....	19,283.01
Total sales, May, 1923	1,144.30	14,713.20	4,653.96	3,145.33	.....	23,656.79
Total sales, May, 1922	1,260.61	17,167.87	2,703.03	1,251.01	.....	22,382.52
Total sales, May, 1921	3,419.41	24,758.41	5,634.93	2,657.87	3,761.39	40,232.01
Sales at Balboa to:						
U. S. Government vessels	144.90	8,766.56	1,402.95	956.54	.....	11,270.95
Other commercial vessels	717.63	5,507.52	1,890.00	3,477.89	635.90	12,228.94
Total sales, May, 1923	862.53	14,274.08	3,292.95	4,434.43	635.90	23,499.89
Total sales, May, 1922	519.56	6,911.98	1,656.64	626.77	446.97	10,161.92
Total sales, May, 1921	948.16	18,177.70	7,444.72	554.36	1,433.46	28,558.40

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of May, 1923, as compared with the same month in 1922 and 1921:

	Commercial.			Noncommercial.			Comparative. grand totals.		
	North.	South.	Total.	North.	South.	Total.	May, 1923.	May, 1922.	May, 1921.
Number of lockages.									
Gatun	186	224	410	5	1	6	416	246	206
Pedro Miguel	189	228	417	13	14	27	444	266	238
Miraflores	189	225	414	13	11	24	438	261	237
Number of vessels put through locks.									
Gatun	196	237	433	14	11	25	458	286	262
Pedro Miguel	192	229	421	41	28	69	490	296	284
Miraflores	192	229	421	38	26	64	485	288	290

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels	13	15	15
Panama Canal equipment	12	54	49

The total consumption of water for lockages, maintenance, and loss in leakage was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,613,110,000	1,445,600,000	1,345,680,000
Leakage	30,000,000	3,900,000	20,000,000
Maintenance	.....	.....	1,840,000
Total consumption, May, 1923	1,643,110,000	1,449,500,000	1,367,520,000
Total consumption, May, 1922	1,005,460,000	908,290,000	876,700,000
Total consumption, May, 1921	815,200,000	755,850,000	770,990,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of May, 1923, are shown in comparative form:

Rainfall.	May, 1923.	May, 1922.	May—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific section	8.30	10.50	12.13	4.95	9.14
Central section	10.45	11.91	16.05	6.31	10.85
Atlantic section	10.93	13.69	22.24	4.54	13.54
Maximum recorded on any 1 day	8.92	4.45	[1] 10.86	.....	.....
Gatun Lake watershed	11.10	13.73	17.88	6.18	11.76
Chagres River watershed above Alhajuela	11.41	16.90	20.51	5.69	12.60
Maximum recorded for month at any 1 point	16.46	25.48	30.51	.....	.....
Minimum recorded for month at any 1 point	4.68	4.54	.....	1.60	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	1,258	1,999	5,220	491	2,177
Maximum momentary discharge for month	13,100	29,100	[2] 170,000	.....	.....
Gatun Lake watershed total yield	3,348	5,154	8,665	1,417	4,767
Gatun Lake watershed net yield	2,825	4,605	7,964	583	4,192
Draft on Gatun Lake for lockages and power	2,459	2,017	2,459	[3] 1,067	[3] 1,770

NOTE.—This report does not include Bocas del Toro.

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28–29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including May, 1914.

SEISMOLOGY.

Seismic tremors were recorded on the 1st and 17th.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

Item.	May, 1923.	May, 1922.	May, 1921.
Gross output, KWH:			
Gatun hydroelectric station	4,463,200	4,402,100	5,316,900
Miraflores steam plant	.....	630	2,350
Power distributed to consumers ..... KWH.	3,879,235	3,712,543	4,413,164
Loss of power in plant auxiliaries, transmission and transformation ..... KWH.	583,694	690,187	905,986
Per cent of loss of power to gross output	13.08	15.67	17.03
Water consumption ..... cubic feet.	3,556,450,506	3,535,378,063	3,990,308,000
Oil consumption ..... barrels.	1,006	1,925	2,350

Miscellaneous electrical repairs and installations of electrical equipment were made on 24 vessels during the month. There were 275 work orders issued for work to be performed by the Electrical Division during the month, as compared with 298 for May, 1922.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 43 vessels at Cristobal and 44 vessels at the Balboa shops. Of these, 8 were placed in dry dock at Cristobal and 7 at Balboa. The more important repair work performed during the month included the following:

The tank steamer *Mina Brea* loaded with 6,000 tons of fuel oil en route from Talara to Habana, caught fire on May 16 while alongside Dock 16 at Cristobal. The tanker

was promptly towed into the outer harbor to avoid damage to other shipping or to Canal equipment. The blaze was caused by a back draft from the furnace which ignited oil in the fireroom bilges. The fire was extinguished in less than half an hour by forces of the fire department and Marine Division. The cargo of fuel oil was not touched by the fire. Repairs were made to the deckhouse and fuel oil tanks adjacent to the fire room, and covering all other damage caused by the fire.

The steamship *Manavi* was dry-docked and her bottom cleaned and painted; keeper for tail shaft nut was renewed; repairs were made to main condenser, boiler valves, lead block, sanitary pipe, life boats and clocks; the forces renewed joints in main steam line, tube and plugs on boiler, stop valve seat and cover, and performed other necessary repairs to the vessel.

The steamship *Acajutla* was drydocked and her bottom cleaned and painted; removed tail shaft and rewooded bushing; repaired fuel pump and valve; and made other minor repairs.

New boilers were installed in the steamship *Colon*, and construction of new cold storage compartments and new promenade deck was begun; a large quantity of new steel was worked into the decks and houses to replace corroded material; and the crank and thrust shafts in the main engines were replaced.

The steamship *Dryden* was drydocked, new shaft and propeller were installed; and miscellaneous repairs were made to main engines and auxiliaries.

The steamship *Howra* struck the north approach wall at Pedro Miguel Locks on May 25. This necessitated renewal of 2 plates and straightening 2 fore and aft stringers. It was estimated that the repairs would require 5 days; the work, however, actually was completed in 2 days and 2 hours, manifesting the excellent spirit of co-operation on the part of the forces of the Mechanical Division.

The steamship *Montrolite* was docked and general machinery was overhauled.

The submarines *R-24* and *R-25* were drydocked and general overhaul commenced.

The output of the foundry in patterns and castings, as compared with the preceding month, was as follows:

	May, 1923.			April, 1923.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	7	294	13,314	9	228	26,109
Steel	5	71	23,482	3	213	17,731
Nonferrous	5	636	4,858	11	525	5,816

A total of 567 job orders were completed during the month of May, leaving 563 unfinished at the close of the month. One blanket order was authorized during the month, leaving a total of 348 standing orders for work to be performed May 30, 1923.

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and the sales of water to ships are shown below in comparative form:

	May, 1923.	May, 1922.	May, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	684,899,000	654,853,000	758,324,750
Filtration plants	408,187,000	379,450,000	472,802,000
Water consumed by Panama City	93,479,000	85,936,000	100,886,000
Water consumed by Colon	58,896,500	62,468,500	59,217,750
Sales of water to vessels	8,551,122	8,493,096	9,975,647

DREDGING.

The West Culebra slide showed a slight general movement during the month. A small slide occurred on the 26th of the month along the west bank. About 4,000 cubic yards moved into the channel; this material, however, was removed the same day. All slide material has been removed in front of East Culebra, as a consequence of the slide of December 21, 1922. A total of 818,600 cubic yards has been removed as a consequence of this slide. All other slides, including East Culebra and Cucaracha, have been quiescent during the month. There was no interference with Canal traffic during the month.

The total excavation during May, was 534,326 cubic yards, as follows:

Cubic yards.	Classified as— Earth.	Rock.	Character of work.	Station.	Equipment.
7,250	2,900	4,350	Maintenance	East Culebra slide—Gaillard Cut	*Cascadas.*
26,800	8,050	18,750	Maintenance	West Culebra slide—Gaillard Cut	*Cascadas.*
14,450	5,750	8,700	Maintenance	Lirio Curve (East)—Gaillard Cut	*Cascadas.*
1,750	.....	1,750	Aux. construction	Pipe Trench, Municipal Division	*Cascadas.*
5,100	.....	5,100	Aux. construction	Pipe Trench, Municipal Division	*Gamboa.*
6,450	.....	6,450	Maintenance	La Pita Improvement project	*Gamboa.*
2,800	1,100	1,700	Maintenance	East Culebra slide—Gaillard Cut	*Gamboa.*
17,100	7,300	10,800	Maintenance	West Culebra slide—Gaillard Cut	*Gamboa.*
50,900	2,550	48,350	Maintenance	La Pita Improvement project	*Paraiso.*
4,450	2,700	1,750	Maintenance	East Culebra slide—Gaillard Cut	*Paraiso.*
13,050	3,900	9,150	Maintenance	West Culebra slide—Gaillard Cut	*Paraiso.*
1,300	1,300	.....	Maintenance	Gaillard Cut (East and West)	*Culebra.*
78,050	78,050	.....	Maintenance	Pacific entrance (East and West)	*Culebra.*
119,950	119,950	.....	Auxiliary	Balboa Inner Harbor	*Culebra.*
62,000	62,000	.....	Maintenance	Pacific entrance	*No. 86.*
119,200	119,200	.....	Maintenance	Gaillard Cut (East and West)	*No. 86.*
2,726	2,726	.....	Auxiliary	Dredging sand at Chame	*La Valley.*
534,326	417,476	116,850			

VITAL STATISTICS.

A total of 141 deaths occurred during the month of May, 1923, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to a death rate of 13.68 per thousand. The leading causes of death were: tuberculosis, 31; pneumonia (broncho and lobar), 16; nephritis (acute and chronic), 15; organic diseases of the heart, 6; apoplexy, 5. Of the total deaths, 46, or 32 per cent, occurred among children under 5 years of age. There were 8 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 243 live births reported during the month, and 14 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 24.92 per 1,000 population. Deaths among children under 1 year of age numbered 26, giving an infant mortality rate of 107 per 1,000 live births.

The total number of malaria cases reported during the month was 96. Of these, 3 cases were reported from Panama City, 1 from Colon, 65 from the Canal Zone, and 27 originated outside of our sanitated area. Of the total, 12 were employees, 31 nonemployees, and 53 were Army and Navy. There was 1 death from malaria.

OCCUPANTS OF QUARTERS.

The number of persons occupying Panama Canal and Panama Railroad quarters, shown in comparative form, was as follows:

	As of May 31, 1923.			Comparative totals.		
	Men.	Women.	Children.	May, 1923.	May, 1922.	May, 1921.
Americans	2,377	1,941	2,098	6,416	6,239	7,828
Europeans	69	29	68	166	244	273
West Indians	4,179	2,850	5,978	13,007	12,142	11,819
Totals, May, 1923	6,625	4,820	8,144	19,589	.....	.....
Totals, May, 1922	6,360	4,492	7,773	.....	18,625	.....
Totals, May, 1921	7,981	4,532	7,407	.....	.....	19,920

WORKING FORCE.

The following tabulation shows the number of gold and silver employees of as May 16, 1923, by departments, together with a comparison of the working force for the preceding month and that of May, 1922:

	As of May 16, 1923.		Total employees.		
	Gold.	Silver.	May, 1923.	April, 1923.	May, 1922.
Operation and Maintenance:					
Office	30	54	84	83	85
Electrical	153	150	303	371	307
Municipal Engineering	73	692	765	662	566
Lock Operation	180	647	827	773	726

	As of May 16, 1923.		Total employees.		
	Gold.	Silver.	May, 1923.	April, 1923.	May, 1922.
Operation and Maintenance—Continued:					
Dredging	145	841	986	971	723
Mechanical	335	666	1,001	989	871
Marine	156	459	615	625	518
Fortifications	17	190	207	190	295
Totals	1,089	3,699	4,788	4,664	4,091
Supply Department:					
Transportation	34	151	185	189	170
Quartermaster	134	912	1,046	1,078	967
Subsistence	6	84	90	106	81
Commissary	159	763	922	958	910
Cattle Industry—Plantations	7	340	347	328	392
Hotel Washington	8	83	91	97	92
Totals	348	2,333	2,681	2,756	2,612
Accounting Department	183	8	191	190	183
Health Department	217	710	927	920	942
Executive Department	474	267	741	722	744
Totals	874	985	1,859	1,832	1,869
Panama Railroad Company:					
Superintendent	45	250	295	293	255
Transportation	63	108	171	171	166
Receiving and Forwarding Agent	78	650	728	773	783
Coaling Stations	66	591	657	785	496
Totals	252	1,599	1,851	2,022	1,700
Grand totals, May, 1923	2,563	8,616	11,179	.....	.....
Grand totals, April, 1923	2,529	8,745	.....	11,274	.....
Grand totals, May, 1922	2,557	7,715	.....	.....	10,272

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month, as compared with the preceding month and the corresponding month a year ago, was as follows:

	May, 1923.	April, 1923.	May, 1922.
Material received on U. S. requisitions:			
For Department of Operation and Maintenance	$166,038.40	$122,876.30	$141,414.67
For other Canal departments	2,366.91	2,873.95	1,642.87
Totals	168,405.31	125,750.25	143,057.54
Cash sales on the Isthmus:			
Stock	19,691.83	18,927.58	20,772.75
Fuel oil	91.86	.....	305.85
Scrap	2,308.09	4,542.55	769.24
Obsolete and second-hand material	20,900.52	100.00	3,528.02
Totals	42,992.30	23,570.13	25,375.86

Respectfully,

JAY J. MORROW,

Governor.

Postal and Cable Address of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Ships at Canal Repair Shops.

The following vessels were at Balboa shops for repairs since the last report, dated May 26:

Schooner *Talamanca*, minor repairs to sanitary system; launches *Petrolio*, remove from water and place on dock; miscellaneous hull repairs; calk; repair copper sheathing; reduce diameter of propeller; examine tail shaft and minor repairs to engine exhaust system; *Anna*, miscellaneous hull repairs; patch copper; calk leaking seams; manufacture quadrant; repack stern gland; miscellaneous engine repairs; steamships *Lingnam*, manufacture valve, springs, and perform minor repairs to ice machine; *Dickenson*, repair steering gear, refrigerator and condensor parts; install bilge line from pump to fire room, and small minor repairs to boilers, etc.; furnish crane service; *Hampton Roads*, repair steering engine and telemotor system; examine and repair main condenser; weld air chamber for fuel oil pump, and perform miscellaneous minor repairs in engine department; *Heffron*, minor repairs to main engine and deck winch; *Hoven*, manufacture 1 section of copper tubing for telemotor system; *President Hayes*, install disinfecting machine; *Anomia*, running repairs to fuel oil pump and deck exhaust system; *District of Columbia*, general overhauling, ice machine and refrigerating system; repair fuel oil heaters and strainers, and miscellaneous minor repairs in engine department; *Cape Cod*, weld boiler tubes and leaking seams; test boilers; general overhauling of thrust shafts and thrust blocks; running repairs to feed pump and sanitary pump; repair valves on auxiliary steam system and boiler mountings; *Miskianza*, dock and undock; paint underwater body; draw tail shaft; install new propeller blades; repack stern gland; roll tubes; electric weld leaking seams; repair boiler mountings, and perform heavy running repairs to engine department auxiliaries; perform miscellaneous repairs for deck department; *Mina Brea*, perform miscellaneous heavy operating repairs throughout engine, steward and deck departments; miscellaneous minor repairs throughout oil cargo system, including pipes, pumps, and tanks; *W. J. Hanna*, perform miscellaneous heavy operating repairs throughout engine, steward, and deck departments; dock and undock; paint underwater bottom and top side of hull; miscellaneous minor repairs throughout oil cargo system including pipes, pumps, and tanks.

PREVIOUSLY REPORTED.

Steamship *Colon*, dock and undock; reboilering, general overhauling and reconditioning.

The following vessels were at the Cristobal shops for repairs during the week ended June 25:

Steamship *General W. C. Gorgas*, weld cracked condenser; clear waste pipe; calk main deck; scale outside of hull above water line; burn paint from wood work; submarine *O-3*, furnish air, water and electric current; steamship *Bologna*, braze copper pipes; weld crack in boiler; forge and machine boom pins; additional work on steamships *Nones*, *Graham*, supply boat *No. 1*, and launch *Navy B;* supply boat *No. 2*, schooner *Arabia*, steamships *Acajutla*, and *Pellerin de LaTouche*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks ending June 23, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged.	Cargo— Laded.
				Tons.	*Tons.*
Ecuador	Pacific Mail Steamship Co	June 12	June 13	90	.....
Ginyo Maru	Toyo Kisen Kaisha	June 13	June 13	16	85
Newport	Pacific Mail Steamship Co	June 13	June 14	50	.....
Acajutla	Pacific Steam Navigation Co	June 16	June 16	.....	18
Palena	Chilean Line	June 17	June 17	57	.....
Heffron	United States Shipping Board	June 17	June 17	177	.....
Palena	Chilean Line	June 17	June 17	63	.....
Venezuela	Pacific Mail Steamship Co	June 17	June 17	12	1
Chaumont	U. S. Government	June 17	June 20	32	11
Alvarado	Pacific Steam Navigation Co	June 17	June 17	2	.....
Zenon	French Line	June 22	June 23	.....	792
Argonne	U. S. Army	June 22	June 23	3	.....
Laura C. Hall	Pacific Metals Transportation Co.	June 22	June 22	4	.....
Anyo Maru	Toyo Kisen Kaisha	June 22	June 23	1,195	.....
Acasta	Anglo-Saxon Petroleum Co	June 22	June 24	7,000	.....

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 23, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Venezuela	16	12.47	17	6.13	17	12.55	17	22.30	American	Pacific Mail Steamship Co	380.0	48.7	20.8	New York	San Francisco	General	2,402	6,033	4,353
W. E. Hutton [1]	17	0.55	17	6.20	17	13.53	17	15.15	American	Pure Oil Steamship Co	435.0	56.0	21.0	New Orleans	Los Angeles	Ballast		7,481	5,120
Steelore	17	2.55	17	7.00	17	15.43	17	22.15	American	Ore Steamship Co	550.3	72.2	17.6	Baltimore	Cruz Grande	Ballast		15,551	4,297
Eburna [2]	17	5.55	17	8.10	17	15.38	17	17.20	British	Anglo-Saxon Petroleum Co	390.0	52.0	17.9	Tampico	Los Angeles	Ballast		5,058	3,292
Bochum	17	6.00	17	8.40	17	16.08	17	17.20	German	Kosmos Line	450.0	58.2	19.10	Hamburg	Los Angeles	General	4,192	7,812	5,495
Henry D. Whiton	17	7.30	17	9.08	17	17.05	17	22.50	American	Union Sulphur Co	356.0	51.6	25.0	Sabine	Los Angeles	Sulphur	6,500	5,367	2,925
Saint Jerome [2]	17	8.22	17	9.47	17	17.18	18	2.40	French	Association Petroliere	351.4	49.1	18 0	Swansea	Los Angeles	Ballast		4,390	2,949
Edgar Bowling	17	9.45	17	10.22	17	18.14	18	3.52	American	Garland Steamship Corp	410.5	54.3	24.0	New York	Seattle	General merch	5,000	6,576	4,909
Cragness	17	11.15	17	11.30	17	19.12	17	20.20	British	Cornborough Shipping Line	409.5	52.7	26.2	New York	Adelaide	(6)	6,000	6,406	4,555
William G. Warden [2]	17	12.02	17	12.15	18	13.45	18	19.08	American	Standard Oil Co	500.0	68.2	22.0	Baltimore	Los Angeles	Ballast		10,524	7,600
Manuel Arnus	16	6.10	18	6.05	18	14.09	18	15.25	Spanish	Spanish Line	435.0	56.0	22.5	Barcelona	Valparaiso	General	261	7,732	5,518
Hadnot [1]	17	17.37	18	7.30	18	15.03	18	16.15	American	Steamer Freeport Co	416.9	56.2	18.0	New York	Los Angeles	Ballast		6,706	4,679
Pacific Maru	17	19.00	18	7.30	18	15.43	18	21.25	Japanese	Kawasaki Dockyard Co	385.0	51.0	24.6	Philadelphia	Valparaiso	(7)	424½	6,251	4,736
Japan Arrow [2]	17	20.35	18	7.54	18	16.27	18	17.20	American	Standard Transportation Co	468.3	62.7	21.0	New York	Los Angeles	Ballast		10,084	7,426
District of Columbia [2]	17	17.06	18	8.40	18	16.47	23	23.35	American	Walker & Daly (S. B.)	431.0	59.2	18.0	Fall River	Los Angeles	Ballast		8,097	5,362
Cerro Ebano [2]	17	22.52	18	9.00	18	17.06	18	18.05	American	Pan-American Pet. & Trans. Co	480.5	66.0	19.0	New York	Los Angeles	Ballast		9,398	6,453
Chester Sun [2]	15	22.48	18	10.05	18	18.06	18	24.00	American	Sun Oil Co	429.2	59.2	20.6	Chester	Los Angeles	Ballast		7,684	5,299
Agwibay [2]	18	6.23	18	10.33	18	19.14	19	2.10	American	Guarantee Trust Co	468.3	62.7	18.0	Baltimore	Los Angeles	Ballast		9,776	6,903
Jadden	18	9.10	18	11.00	18	19.54	19	6.44	American	Tampa Interocean S.S. Co. (S.B.)	410.5	54.2	25.0	Galveston	Manila	General	6,632	7,496	5,686
Westmoreland	18	9.45	18	12.12	18	20.57	18	22.06	British	Federal Steam Navigation Co	473.0	60.0	28.7	London	Auckland	General	7,200	10,385	7,505
Sailor [2]			18		18	15.09			American	J. A. Walker				Cristobal	Gatun Lake	Unknown		2	2
No. 76 [3]	17		18		18	15.09			American	J. A. Walker				Gatun Lake	Cristobal	Unknown		9	9
Hoven [2]	18	15.15	19	6.11	19	15.27	19	18.54	American	Walker & Daly (S. B.)	434.8	56.2	19.3	New York	Los Angeles	Ballast		7,426	5,144
Vindeggen	19	6.50	19	7.50	19	15.40	19	16.55	Norwegian	Jens Falkmans Rederi	330.8	46.8	17.10	Norfolk	Valparaiso	Coal	2,014	3,517	2,268
Iowan	19	9.22	19	9.30	19	16.32	19	24.00	American	American-Hawaiian Line	407.7	53.7	26.0	Baltimore	Seattle	General merch	7,140	7,091	5,002
Maine	19	11.12	19	11.25	19	19.16	20	1.44	American	Frank B. Barns	402.0	54.2	26.4	Baltimore	Seattle	General	8,027	6,936	4,998
Delft	18	18.38	19	12.50	19	20.00	19	21.15	Dutch	Royal Netherlands W. I. Mail	369.0	50.0	21.3	Hamburg	Chilean ports	General	3,336	5,862	4,393
William Rockefeller [1]	19	13.25	19	13.40	19	21.39	19	22.50	American	Standard Oil Co	554.9	75.3	22.0	New York	Los Angeles	Ballast		14,785	10,313
Maryland [4]	19	22.05	20	5.05	20	16.48	20	18.00	American	U. S. Navy	600.0	96.0	33.0	Hampton Rds.	San Francisco	Ballast			
San Joaquin [1]	19	17.28	20	6.45	20	14.57	20	15.55	Norwegian	W. Wilhelmsen	425.4	57.1	16.0	Tampico	Port San Luis	Ballast		7,059	5,043
O-11 [5]			20	6.55	20	15.00			American	U. S. Navy	175.0	16.3		Cristobal	Balboa	Ballast			
O-13 [5]			20	6.55	20	15.00			American	U. S. Navy	175.0	16.3		Cristobal	Balboa	Ballast			
Bethelridge [2]	19	18.20	20	7.50	20	16.00	20	17.10	American	Walker & Daly (S. B.)	431.0	59.2	20.5	New York	Los Angeles	Ballast		7,819	5,094
O-14 [5]			20	8.00	20	16.03			American	U. S. Navy	175.0	16.3		Cristobal	Balboa	Ballast			

[1] Tanker. [2] Launch. [3] Barge. [4] Battleship. [5] Submarine. [6] General cargo, case oil and paraffine. [7] Locomotive and tender.

Carolinas	20	6.25	20	8.10	20	17.06	20	18.05	American	The Carolina Steamship Co	333.8	48.0	24.0	New Orleans	Los Angeles	General	4,500	4,171	2,827
O-16[8]			20	8.45	20	17.04			American	U. S. Navy	175.0	16.3		Cristobal	Balboa	Ballast			
Canadian Pioneer	20	8.50	20	9.05	20	18.15	20	21.40	British	Canadian Government	400.4	52.0	21.0	Montreal	Adelaide	General	3,500	5,877	4,070
Ucayali	14	19.55	20	10.30	20	18.59	20	23.06	Peruvian	Peruvian Line	374.7	46.3	18.6	Cristobal	Callao	General	426	4,466	2,405
O-12[8]			20	10.30	20	18.48			American	U. S. Navy	175.0	16.3		Cristobal	Balboa	Ballast			
Devolente[1]	20	10.37	20	11.05	20	19.36	20	20.43	American	Beacon Oil Co	435.0	56.0	18.6	New York	Los Angeles	Ballast		7,452	5,151
Osiris[9]	20	10.20	20	11.55	20	20.31	20	21.40	German	Kosmos Line	376.0	51.6	19.4	Bremen	Corral	General	3,010	5,788	4,023
Lucienne[10]	20	7.22	20	11.23	20	18.54	22	19.13	British	Clarence Wallace	80.5	19.8	11.0	Rotterdam	Vancouver	Ballast		116	19
Cold Harbor	19	21.50	20	12.55	20	21.19	20	22.32	American	N. Atl. & Western Co. (S. B.)	390.0	54.2	21.6	Philadelphia	Seattle	General, steel	5,000	6,167	4,290
Republic	20	15.26	21	6.20	21	15.00	21	17.00	American	Chile Steamship Co	345.1	49.1	14.0	New York	Tocopilla	General	850	4,393	3,006
Santa Luisa	20	19.57	21	6.25	21	13.39	21	17.40	American	Grace Line	360.2	51.0	25.5	New York	Talcahuano	General	3,344	5,694	3,975
William Penn[9]	20	16.33	21	7.30	21	15.27	22	.40	American	Barber Line (S. B.)	429.6	60.2	28.0	New York	Shanghai	Gen., case oil	10,059	9,019	6,226
Argonne[11]	21	0.10	21	7.50	21	16.16	23	.35	American	U. S. Navy	448.0	58.0	22.7	Philadelphia	San Francisco	Gen. navy cargo	572	8,407	5,212
Palena	17	21.30	21	9.28	21	17.09	21	18.10	Chilean	Chilean Line	350.0	42.1	22.8	Cristobal	Valparaiso	General	540	3,666	2,577
Talaralite[1]	21	10.40	21	10.55	21	19.30	23	8.55	British	Imperial Oil Co	250.0	43.0	18.0	Halifax	Talara	Ballast		2,631	1,570
Zenon	21	7.32	22	6.11	22	13.30	24	4.45	French	French Line	425.0	55.0	19.6	Antwerp	Vancouver	General	957	6,982	4,934
Surailco	21	13.57	22	6.55	22	15.00	22	16.10	American	Submarine Boat Corp	324.0	46.2	17.0	Newark	Tacoma	General, steel	2,500	3,984	2,612
R-23[8]			22	7.50	22	14.58			American	U. S. Navy	175.0	16.7		Cristobal	Balboa	Ballast			
R-27[8]			22	7.50	22	14.58			American	U. S. Navy	175.0	16.7		Cristobal	Balboa	Ballast			
F. J. Luckenbach	21	17.10	22	8.08	22	15.57	22	17.00	American	Luckenbach Line	446.0	56.0	30.0	Galveston	Seattle	General	9,200	8,508	6,179
Charles Pratt[1]	21	21.43	22	8.55	22	16.29	22	17.45	American	Standard Oil Co	500.0	68.0	21.0	Charleston	Los Angeles	Ballast		10,313	7,492
Paul Shoup[1]	21	22.35	22	9.10	22	16.48	22	17.55	American	Associated Oil Co	424.0	58.2	24.0	Fall River	Los Angeles	Ballast		7,333	5,119
Panaman	22	4.55	22	10.02	22	17.09	22	18.05	American	American-Hawaiian Line	407.7	53.7	22.8	Boston	Portland	General	5,300	7,098	5,029
Bologna	20	9.15	22	11.05	22	17.42	22	18.35	Italian	Italian Line	386.1	47.1	20.4	Genoa	Valparaiso	General	708	5,531	3,774
Almagro	20	16.13	22	12.10	22	18.48	22	19.58	British	Pacific Steam Navigation Co	303.4	43.0	14.2	New York	Guayaquil	General merch	838	2,878	1,714
Port Lincoln	22	17.20	23	6.25	23	13.23	23	14.50	British	Commonwealth & Dom. Line	426.0	54.1	24.0	London	Sydney	General	5,809	7,544	5,256
Steel Ranger	22	23.05	23	7.10	23	15.05	23	19.02	American	Isthmian Line	424.2	56.2	27.0	New York	Vancouver	General, steel	8,350	7,611	5,450
Beckenham	23	7.00	23	7.40	23	16.18	23	19.50	British	Britain Steamship Co	370.0	50.6	24.0	Manchester	San Antonio	Coal	5,456		
Betterton[1]	23	7.10	23	8.35	23	16.54			American	Struthers & Barry (S. B.)	431.0	59.2	19.0	St. Thomas	San Luis	Ballast		7,822	5,197
Horace Luckenbach	23	8.00	23	9.15	23	17.35	23	18.37	American	Luckenbach Line	445.0	58.0	27.2	New York	Seattle	General	9,300	8,626	6,290
Siberian Prince	23	9.20	23	10.08	23	18.27	23	19.58	British	Prince Line, Ltd	423.5	56.0	24.6	Newport	Los Angeles	(12)	7,178	6,267	4,565
Agwistone	23	11.05	23	11.15	23	19.30	24	1.20	American	Atl. Gult & W. I. S. S. Co	499.9	68.1	23.0	New York	Los Angeles	Ballast		10,600	7,526

[1] Tanker. [8] Submarine. [9] Motor ship. [10] Tug. [11] Transport. [12] Tinplates, steel, pig iron and general.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Swiftlight[1]	17	3.22	17	11.08	17	19.10	17	19.10	American	C. D. Mallory & Co	464.6	60.2	25.0	Los Angeles	Fall River	Crude oil	11,000	8,473	6,050
Scottish Minstrel	17	9.00	17	11.38	17	20.11	17	20.11	British	Anglo-Saxon Petroleum Co	424.8	57.0	27.3	Los Angeles	Tampico	Crude oil	8,239	7,123	4,962
Palena	16	21.00	17	13.08	17	21.30	21	9.28	Chilean	Chilean Line	350.0	42.1	21.9	Talcahuano	Cristobal	General	65	3,666	2,576
Tuxpanoil[1]	17	14.30	18	7.08	18	15.40	18	20.00	American	McAllister Bros	431.0	59.2	26.0	Los Angeles	New York	Crude oil	9,500	7,862	4,979
Missourian[13]	17	19.00	18	7.28	18	16.13	18	16.13	American	American-Hawaiian Line	445.1	59.8	24.0	Seattle	New York	General, lumber	7,000	8,567	6,020
Alvarado	17	16.30	18	8.10	18	16.35	19	9.40	British	Pacific Steam Navigation Co	303.0	43.0	17.0	Guayaquil	New York	General	1,369	2,122	1,504
Edward L. Doheny, Jr.[1]	17	19.45	18	8.13	18	17.15	18	17.15	American	Pan-American Pet. & Trans. Co.	467.6	62.7	28.10	Los Angeles	New Orleans	Crude oil	13,695	9,655	7,166
Calgarolite[1]	18	3.00	18	10.10	18	18.00	18	18.00	British	Imperial Oil Co	463.3	60.2	26.6	Talara	New York	Crude naptha	11,500	5,491	6,096

[1] Tanker. [13] Motor ship.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Elder Branch	18	5.30	18	10.15	18	19.15	18	23.00	British	Nautilus Steamship Co	380.3	49.7	23.3	Corral	Liverpool	General	6,170	4,951	3,592
Oriflamme [2]	17	15.55	18	11.34	18	20.05	18	22.15	British	Davis & Newman	400.5	51.2	26.0	San Francisco	Havre	Gasoline	3,804	5,929	4,178
Heffron	17	18.00	18	14.12	18	22.30	19	16.12	American	Tampa Interocean S. S. Co	440.0	56.0	30.0	Shanghai	New York	([14])	11,427	8,349	6,201
Nora [2]	18	14.30	19	6.58	19	14.50	19	14.50	American	Huasteca Petroleum Co	467.6	62.7	28.6	Los Angeles	New Orleans	Crude oil	14,000	9,918	7,468
Hugoton [2]	18	14.50	19	7.54	19	16.00	19	16.00	American	Malston & Co	434.8	56.2	26.0	Los Angeles	Baton Rouge	Crude oil	([15])	7,429	5,137
Bratsberg	18	18.30	19	8.40	19	17.05	21	11.20	Norwegian	Aktieselskabet Borgestad	395.9	49.6	21.6	Victoria	Boston	Lumber	4,600	4,263	3,042
Montrolite [2]	18	23.30	19	8.46	19	17.43	19	18.40	British	Imperial Oil Co	436.5	57.0	24.8	Talara	Habana	Crude petroleum	8,200	7,378	4,826
Edward Luckenbach	19	6.44	19	9.56	19	18.49	19	18.49	American	Luckenbach Line	436.6	57.2	28.6	Seattle	New York	General	7,128	8,543	6,427
Silver Shell [2]	19	5.43	19	11.08	19	19.56	19	19.56	American	Shell Oil Co	411.5	53.4	24.0	San Francisco	London	Lubricating oil	7,500	6,212	4,343
Dominion Miller	19	8.45	19	13.07	19	21.00	19	21.00	British	Furness, Withy & Co	420.0	54.0	26.0	Seattle	Havre	Grain, canned	8,600	6,996	5,386
Hampton Roads [2]	15	19.00	19	15.22	19	23.08	19	23.08	American	McAllister Bros	425.0	59.2	26.5	Los Angeles	Fall River	Crude oil	([16])	8,093	5,440
Chaumont	17	15.45	20	7.35	20	17.20	21	1.00	American	U. S. Navy	448.0	58.2	23.0	San Diego	New York	Navy stores	470	8,407	5,212
Junin	19	21.30	20	7.48	20	17.55	22	11.50	British	Pacific Steam Navigation Co	391.5	50.2	22.6	Caravel	Hull	General	3,619	5,930	4,395
J. W. Van Dyke [2]	19	0.00	20	8.54	20	18.48	20	18.48	American	Atlantic Refining Co	435.0	56.0	28.9	Los Angeles	Philadelphia	Crude oil	10,000	2,460	5,215
American Star	20	4.30	20	9.11	20	19.55	20	19.55	American	American Star Line	386.8	52.0	22.6	Grays Harbor	New York	Lumber	5,500	5,699	4,148
Lochkatrine	20	15.00	21	7.06	21	14.10	21	18.00	British	Royal Mail Steam Packet Co	485.0	62.0	30.6	Vancouver	Rotterdam	General	10,392	10,802	7,595
San Melito [2]	20	18.30	21	7.33	21	16.00	21	16.00	British	Anglo-Saxon Petroleum Co	530.0	66.5	28.0	Los Angeles	Tampico	Crude oil	15,180	12,381	8,800
Waipara	20	19.25	21	8.57	21	16.15	21	22.55	British	British India Steam Nav. Co	420.0	54.0	20.0	Lyttleton	Glasgow	General, frozen	2,760	.....	.....
Nebraskan	21	3.30	21	9.03	21	17.00	21	17.00	American	American-Hawaiian Line	368.6	55.2	20.6	Seattle	Philadelphia	Lumber, general	2,670	4,513	3,104
Teno	21	5.20	21	9.48	21	17.40	22	1.38	Chilean	Chilean Line	421.8	56.0	23.9	Valparaiso	New York	General	3,013	7,758	4,672
Lompoc [2]	21	6.00	21	10.03	21	18.15	21	18.15	British	C. T. Bowring & Co	435.0	55.9	28.0	Los Angeles	Tampico	Crude petroleum	9,600	7,496	5,311
Urubamba	21	6.00	21	14.09	21	21.20	.....	.....	Peruvian	Peruvian Line	381.2	46.1	16.6	Ilo	Cristobal	General	1,293	4,803	2,951
Huguenot [2]	21	10.10	21	15.20	21	22.45	22	4.10	American	McAllister Bros	434.8	56.2	27.1	Los Angeles	New York	Crude oil	10,300	7,394	5,099
Katrina Luckenbach	21	18.15	22	7.09	22	14.04	22	14.05	American	Luckenbach Line	446.0	56.1	26.6	Portland	Mobile	([17])	6,400	8,508	6,179
K. R. Kingsbury [2]	21	22.00	22	7.51	22	15.33	22	15.33	American	Standard Oil Co	440.0	58.2	31.0	San Francisco	New York	Crude oil	10,775	9,033	5,938
Trontolite [2]	22	6.15	22	9.12	22	18.05	22	22.15	British	Imperial Oil Co	420.8	57.0	26.0	Talara	New York	Crude oil	9,250	7,240	4,713
Matinicock [2]	22	8.40	22	9.48	22	18.47	22	18.47	American	Standard Oil Co	459.0	60.0	25.0	Los Angeles	New York	Bulk oil	10,300	8,171	5,882
Laura C. Hall	22	9.30	22	13.51	22	20.40	24	6.23	British	Pacific Metals Corp	81.0	26.0	9.6	Buenaventura	Cristobal	Platinum	50	132	72
Oroya [2]	22	18.40	23	7.12	23	15.10	23	21.10	British	Pacific Steam Navigation Co	525.3	62.1	26.6	Valparaiso	Liverpool	General	5,819	13,133	9,064
Norlina	23	5.00	23	8.25	23	16.05	23	16.05	American	Garland Steamship Corp	385.0	51.1	25.6	Portland	Philadelphia	Lumber, copper	5,971	5,466	4,181
Steelmaker	23	8.40	23	9.18	23	16.35	23	16.35	American	Isthmian Line	395.5	55.0	25.6	Everett	Baltimore	([18])	7,288	7,285	5,256
Orleans	23	0.30	23	9.52	23	17.05	23	17.05	American	American-Hawaiian Line	395.5	55.0	22.6	Bellingham	Boston	Lumber	5,350	7,330	5,233

[2] Tanker. [14] Rice, sugar, hemp, lumber, Chinese merchandise, wood, oil. [15] 76,032 barrels. [16] 65,130 barrels. [17] Lumber, shingles, and general. [18] Lumber and manganese.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 616, column 2.)

Proportion of Tanker Traffic to Total in Past Nine Months.

The notable increases in the traffic through the Canal in the past 9 months has been due primarily to the shipments of petroleum from the west coast of the United States. The following table shows the commercial traffic through the Canal segregated between tank ships and general cargo vessels, for the period:

1922–1923.	Total Commercial Transits.			Average Daily Transits.		
	Tankers.	General.	Total.	Tankers.	General.	Total.
September	28	212	240	1.0	7.0	8.0
October	31	263	294	1.0	8.5	9.5
November	39	255	294	1.3	8.5	9.8
December	39	265	304	1.3	8.5	9.8
January	51	301	352	1.7	9.7	11.4
February	73	253	326	2.6	9.0	11.6
March	119	290	409	3.8	9.4	13.2
April	148	256	404	5.0	8.5	13.5
May	173	246	419	5.6	7.9	13.5

From the above it will be seen that the large increase in traffic through the Canal during the past several months was due almost entirely to the increased tanker traffic. The month showing the highest daily average of transits of general cargo vessels was January, 1923, and the months since January would have shown a falling off in traffic except for the increase in tank ships.

Segregating net tonnage and tolls for the same period shows:

1922–1923.	Panama Canal net tonnage.			Tolls.		
	Tankers.	General.	Total.	Tankers.	General.	Total.
September	146,684	923,726	1,070,410	$135,861.20	$884,203.35	$1,020,064.55
October	182,765	1,127,627	1,310,392	167,074.99	1,188,434.01	1,255,508.00
November	227,118	1,110,162	1,337,280	194,159.04	1,070,277.50	1,264,436.54
December	222,604	1,149,059	1,375,263	203,017.79	1,109,559.33	1,312,570.12
January	297,485	1,313,207	1,610,692	254,735.56	1,250,549.99	1,505,285.55
February	454,492	1,075,055	1,529,547	397,267.71	1,026,686.50	1,423,954.21
March	713,259	1,274,933	1,988,192	627,017.58	1,200,700.86	1,827,718.44
April	884,890	1,122,800	2,007,690	782,934.76	1,098,003.39	1,878,938.15
May	1,017,185	1,111,229	2,128,414	906,731,91	1,065,430.13	1,972,162.04

From two tables above, it is seen that there has been little fluctuation in the number of transits, net tonnage, and tolls other than in tanker traffic. In fact, general cargo vessels show a decrease from the peak.

Grain movements are more or less seasonal and are now at about their ebb. Nitrate shipments showed a sharp reaction in May, having dropped to 66,618 tons as compared with 197,983 tons during April, and 222,086 tons in March, 1923.

There is no positive indication as to the duration of the tanker traffic or the extent to which it may grow. Like the other traffic, it depends on the conditions in the trade. By the time it decreases, if it does, the general traffic may have developed to such an extent as to maintain or increase the total.

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m., and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Official Circular.

Water Line Across Canal at Paraiso.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., June 12, 1923.

To all concerned.—A 12-inch water line has been laid across the Canal by the Municipal Division on the site of the old pontoon bridge at Paraiso, and signs indicating the location of the line have been placed on both banks of the Canal.

Although the line is placed in a 5-foot trench in the bottom of the Canal, care should be taken not to drop anchors in this locality or to perform any work that might endanger the line.

JAY J. MORROW,
Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometric comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 614.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
June 17	Zacapa	United Fruit Co.	New Orleans via Habana.
June 17	Ulua	United Fruit Co.	Port Limon.
June 19	Toloa	United Fruit Co.	New York via Habana.
June 20	Parismina	United Fruit Co.	New Orleans via Habana.
June 20	San Bruno	United Fruit Co.	Boston via Habana.
June 20	Tivives	United Fruit Co.	New York via Kingston.
June 20	Denver	U. S. Navy	High seas.
June 21	P. de LaTouche	French Line	Havre via wayports.
June 21	Zacapa	United Fruit Co.	Bocas.
June 20	Chiton	Anglo-Saxon Petroleum Co.	Curacao.
June 23	Coronado	Elders & Fyffes Line	Port Limon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
June 17	Adalia	Hamburg-American Line	Port Limon.
June 17	Ulua	United Fruit Co.	New York via Habana.
June 18	Denver	U. S. Navy	High seas.
June 18	Zacapa	United Fruit Co.	Bocas.
June 19	Ulysses	Panama Railroad Steamship Line.	Norfolk.
June 19	Cristobal	Panama Railroad Steamship Line.	New York via Haiti.
June 20	Toloa	United Fruit Co.	Port Limon.
June 21	Tivives	United Fruit Co.	Colombian ports.
June 21	Parismina	United Fruit Co.	New Orleans via wayports.
June 21	San Bruno	United Fruit Co.	Boston via Limon.
June 21	Zacapa	United Fruit Co.	New Orleans.
June 22	Chiton	Anglo-Saxon Petroleum Co.	Curacao.
June 23	Coronado	Elders & Fyffes Line	Briston via Kingston.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
June 20	Talamanca	United Fruit Co.	Puerta Nentis.
June 22	Anyo Maru	Toyo Kisen Kaisha	Hongkong.
June 23	Acasta	Anglo-Saxon Petroleum Co.	San Diego.

Date.	Vessel.	Line.	For—
June 23	Anyo Maru	Toyo Kisen Kaisha	Valparaiso.

*Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., July 4, 1923. No. 47.

Tolls Show Fifty Per Cent Increase During Fiscal Year.

Commercial traffic through the Panama Canal during the fiscal year ending June 30, 1923, shows an increase in tolls of more than 50 per cent over any preceding fiscal or calendar year. During the year a total of 3,967 commercial vessels transited the Canal, paying in the aggregate $17,508,199.57 in tolls, or slightly less than $1,500,000 per month average.

As compared with preceding fiscal years, the increase in traffic is perhaps best shown by taking the average daily number of transits, and average daily amount paid in tolls, by fiscal years, since the opening of the Canal. Such a summary, gives the following:

	Totals by Fiscal Years.		Daily Average.	
	Transits.	Tolls.	Transits.	Tolls.
1915	1,075	$4,367,550.19	3.35	$13,606.08
1916[1]	758	2,408,089.62	2.07	6,579.48
1917	1,803	5,627,463.05	4.94	15,417.71
1918	2,069	6,438,853.15	5.67	17,640.69
1919	2,024	6,172,828.59	5.55	16,911.86
1920	2,478	8,513,933.15	6.77	23,262.11
1921	2,892	11,276,889.91	7.92	30,895.59
1922	2,736	11,197,832.41	7.50	30,678.99
1923	3,967	17,508,199.57	10.87	47,967.67

[1] Canal closed approximately 6 months of fiscal year on account of slides.

MAY, 1923, RECORD MONTH FOR CANAL TRAFFIC.

The record month for commercial traffic since the opening of the Canal, both in number of transits and revenue from tolls, was May, 1923. As compared with the record month of preceding fiscal years, a summary shows the following:

Fiscal Year.	Month.	No. of transits.	Tolls.
1923	May	419	$1,972,216.04
1922	October	255	1,047,935.62
1921	March	255	1,105,536.55
1920	December	260	891,358.34
1919	May	176	583,979.66

June Transits and Tolls Slightly Under Record Figures for May.

The number of commercial transits and the amount of revenue collected in tolls for the month of June were slightly lower than the record figures established in the month of May, 1923, but exceeded those of any other month since the opening of the Canal.

The daily average number of transits for June was the highest of record, but June having but 30 days, as compared with 31 for May, the total commercial transits for June lacked 2 of equalling the high

record of 419 transits for May. The detail of the month's traffic, as compared with the preceding month, was as follows:

	Total for Month of May.		Total for Month of June.	
	No. of transits.	Aggregate tolls.	No. of transits.	Aggregate tolls.
Atlantic to Pacific	229	$986,949.06	227	$954,587.95
Pacific to Atlantic	190	985,266.98	190	943,455.85
Totals	419	1,972,216.04	417	1,898,043.80

Daily averages for the number of transits and tolls, by months, during the past fiscal year show a consistent progressive increase throughout the year. The following summary gives monthly and daily figures on number of transits and tolls for this period:

	Total for Month.		Daily average.	
	No. of transits.	Tolls.	No. of transits.	Tolls.
July	251	$1,094,127.42	8.10	$35,294.43
August	257	1,055,336.75	8.29	34,043.12
September	240	1,020,064.55	8.00	32,905.31
October	294	1,255,508.00	9.48	40,500.26
November	294	1,264,436.54	9.80	42,147.88
December	304	1,312,570.12	9.81	42,340.97
January	352	1,505,285.55	11.35	48,557.60
February	326	1,423,954.21	11.64	50,855.51
March	409	1,827,718.44	13.20	58,958.66
April	404	1,878,938.15	13.47	62,631.27
May	419	1,972,216.04	13.52	63,619.87
June	417	1,898,043.80	13.90	63,268.13

Grounding of "John D. Archbold" on Bona Island.

On June 30th at 4.10 a. m. the Standard Oil tanker *John D. Archbold*, bound from Los Angeles to New York with a cargo of crude oil, went ashore on Bona Island 20 miles south of Balboa. In response to a radiogram requesting assistance the Panama Canal tug *Gorgona* and the Navy tug *Quail* were immediately dispatched from Balboa, and the Panama Canal's salvage steamer *Favorite* followed, starting from Cristobal.

The tanker was refloated at high tide on the morning of July 1, and continued under her own steam to Balboa. The hull suffered some damage and several of the cargo tanks were punctured. On July 4 the ship was still lying at Balboa, and no definite instructions had been received from the New York office of the Standard Oil Company of New Jersey, with respect to repairs.

The *John D. Archbold* is one of the largest tankers in service through the Panama Canal, measuring 554.9 feet in length, 75.3 feet in beam, and drawing approximately 31 feet when loaded. The cargo capacity exceeds 21,000 tons.

In getting the *John D. Archbold* off the shore the crew of the *Favorite* set out a 9-ton anchor (a relic from the old battleship *Iowa*), about 400 fathoms out from the stern of the tanker. This was connected up to a double-geared deck winch on the tanker by a 2-inch steel wire, running through a 10-part tackle. At low tide the cable was pulled as tight as the winch would heave it, and as the tide rose the ship lifted slowly and was drawn off by her own winch.

The light on Bona Island was working, but was obscured by low clouds at the time the *John D. Archbold* came up the gulf. The "Sailing Directions" call attention to the danger of cloudiness over this area.

French Line Will Increase Sailings to North Pacific Ports.

The Compagnie Generale Transatlantique announces that with the departure of the steamship *Alaska* from Havre, June 20, reaching the Canal about July 4, fortnightly sailings will be maintained to North Pacific ports of United States and Canada via the Panama Canal. This will practically double the company's service over this route.

Regular ports of call on the North Pacific coast will be San Francisco, Seattle, Portland, and Vancouver. Los Angeles and Tacoma will also be included when sufficient cargo offers.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., June 30, 1923.

Two concrete posts have been erected on the Colon breakwaters. They have no reference to navigation and will bear no lights. Their descriptions are:

One concrete post, approximately 4 feet at base and 10 feet high, triangular pyramid in shape, about 150 feet from the east end of the west breakwater.

One concrete post, similar to the above, about 100 feet from the east end of the east breakwater.

JAY J. MORROW,
Governor.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., JULY 5, 1923.

A small buoy, marking the end of a telegraph cable has been placed by the cable-ship *Guardian* at the following position: Bona Island light bears 23°, 4.78 miles distant.

This buoy was placed to-day and will likely be removed within two weeks.

JAY J. MORROW,
Governor.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended July 2, 1923:

Launch *Birdena* (Dredging Division), build up about 8 feet on edges of stem plating by electric welding; renew 4 plates; renew wooden guards and replace chafing iron; renew bulwark and deck plating; repair pilot house; lift out and replace in water; stage, clean, wire brush and paint bottom; steamships *Salvador*, make 3 H. P. piston rings; remake 12 pillows and 4 mattresses; make bilge pump plunger; repair engine counter gear; alter water service pipe; make 2 fresh water receivers; repair gin block; make 1 tent 15 feet by 18 feet; repair 1 chair; repair and adjust 2 scales; *Huasco*, renew boiler staybolts; *Rotorua*, repair stern bushing and stem gland; diver to examine and remove stern bushing; *Balboa*, repair 2 winches; rewood 2 friction bands; repair 5 sheaves and 4 blocks; *Gen. G. W. Gorgas*, repair piping; calk main deck; *Valdez*, *Alameda*, *J. W. Clise*, *Arabia*, *Gen. G. W. Goethals*, *Oak Branch*, *Theben*, and *Cauca*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week ending June 30, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
George Washington	Peter Olsen	June 25	June 25	446	37
Cathwood	Union Oil Co	June 25	June 26	9,285	.....
Cauca	Pacific Steam Navigation Co	June 25	June 25	38	.....
Newport	Pacific Mail Steamship Co	June 26	June 28	.....	8
Eastern Gale	General Steamship Co	June 26	June 27	415	.....
General O. H. Ernst	Panama Railroad Steamship Line	June 27	June 27	.....	67
San Juan	Pacific Mail Steamship Co	June 30	June 30	43	.....

Origin and Destination of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, May, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.							Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of North America.[1]	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[1]	Total, Asia.	New Zealand.	Australia.	Australasia.[1]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America:																									
United States—																									
North Atlantic ports	2,527	1,038	1,209	1,595	7,066	13,435	283,817	....	1,250	....	953	....	286,020	65,428	18,386	196	26,011	110,021	18,741	21,067	....	39,808	3,033	452,317	61.0
South Atlantic ports	2,034	....	....	....	....	2,034	3,300	....	....	....	....	....	3,300	5,450	1,011	....	4,629	11,090	525	....	....	525	....	16,949	2.3
Gulf ports	1,523	....	343	122	....	1,988	36,324	....	3,320	....	....	36	39,680	15,898	24,804	886	123	41,711	1,140	9,082	4,847	15,069	2,307	100,755	13.4
Total, United States	6,084	1,038	1,552	1,717	7,066	17,457	323,441	....	4,570	....	953	36	329,000	86,776	44,201	1,082	30,763	162,822	20,406	30,149	4,847	55,402	5,340	570,021	76.7
East coast of Mexico	18,318	....	....	....	....	18,318	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	18,318	2.4
Cristobal, C. Z.[2]	446	373	1,086	597	357	2,859	156	....	....	....	2,087	....	2,243	....	....	....	....	....	....	....	....	....	....	5,102	0.7
West Indies	911	....	....	....	415	1,326	....	....	5,250	....	....	....	5,250	....	....	....	....	....	....	....	....	....	....	6,576	0.9
East coast of Canada	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2,998	....	2,998	....	2,998	.04
Totals, North America	25,759	1,411	2,638	2,314	7,838	39,960	323,597	....	9,820	....	3,040	36	336,493	86,776	44,201	1,082	30,763	162,822	20,406	33,147	4,847	58,400	5,340	603,015	81.1
Europe:																									
Belgium	142	....	440	411	230	1,223	1,037	....	....	1,182	....	....	2,219	....	....	....	....	....	....	....	....	....	....	3,442	0.5
British Isles	8,336	....	520	4,314	1,560	14,730	22,528	....	6,868	....	119	....	29,515	....	....	....	....	....	33,162	....	....	33,162	....	77,407	10.4
France	289	....	54	102	3	448	3,604	....	....	2,433	....	....	6,037	....	....	....	....	....	....	....	....	....	....	6,485	0.9
Germany	4,302	24	....	25	2,855	7,206	944	....	....	....	780	....	1,724	....	....	....	....	....	....	....	....	....	....	8,930	1.2
Holland	857	....	12	378	....	1,247	633	....	60	....	....	....	693	....	....	....	....	....	....	....	....	....	....	1,940	0.3
Italy	50	....	....	615	710	1,375	152	....	....	....	....	....	152	....	....	....	....	....	....	....	....	....	....	1,527	0.2
Norway and Sweden	....	....	....	....	....	....	5,133	....	....	....	....	460	5,593	....	....	....	....	....	....	....	....	....	2,752	8,345	1.1
Spain	52	....	....	....	....	52	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	52	....
Europe[1]	5,999	....	2,910	264	7,361	16,534	5,820	37	22	345	2,133	....	8,357	....	....	....	....	....	....	....	....	....	....	24,891	3.4
Totals, Europe	20,027	24	3,936	6,109	12,719	42,815	39,851	37	6,950	3,960	3,032	460	54,290	....	....	....	....	....	33,162	....	....	33,162	2,752	133,019	18.0
East coast, South America	60	450	....	....	....	510	5,072	....	....	....	....	....	5,072	735	....	....	....	735	....	....	....	....	....	6,317	0.9
Grand totals	45,846	1,885	6,574	8,423	20,557	83,285	368,520	37	16,770	3,960	6,072	496	395,855	87,511	44,201	1,082	30,763	163,557	53,568	33,147	4,847	91,562	8,092	742,351	100.0
Per cent of total cargo:																									
May, 1923	6.0	0.3	0.9	1.1	2.8	11.1	49.7	....	2.2	0.5	0.8	....	53.2	11.8	6.0	0.1	4.3	22.2	7.4	4.5	0.6	12.5	1.0	100.0	....
May, 1922	9.8	.2	.1	1.2	5.7	17.0	33.7	.2	1.5	.1	1.0	....	36.5	11.2	11.1	1.5	16.1	39.9	.6	1.2	4.8	6.6	....	....	....
May, 1921	9.2	.3	.1	4.7	5.1	19.4	36.5	....	.1	....	3.0	....	39.6	6.5	5.4	.9	11.6	24.4	5.6	2.6	7.8	16.0	.6	....	....

[1] General cargo not routed so as to allow segregation between definite ports.

[2] Includes both local and transit cargo.

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to Atlantic, May, 1923.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. East coast of Canada.	North America. West Indies.	North America. East coast of Mexico.	North America. Cristobal, C. Z.[2]	North America. Total, North America.	Europe. British Isles.	Europe. Belgium.	Europe. Denmark.	Europe. France.	Europe. Germany.	Europe. Holland.	Europe. Italy.	Europe. Norway and Sweden.	Europe. Spain and Portugal.	Europe. Europe.[2]	Europe. Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																							
Chile	93,222	2,517	8,800	104,539	.....	94	.....	2,160	106,793	25,798	....	....	586	1,136	12,097	793	.....	11	22,302	62,273	....	169,516	11.1
Colombia	2,199	.....	.....	2,199	.....	.....	.....	405	2,604	.....	....	....	.....	.....	.....	.....	.....	6	.....	6	25	2,635	.2
Ecuador	2,053	.....	.....	2,053	.....	.....	.....	1,192	3,245	.....	....	....	59	638	32	21	.....	25	770	1,545	....	4,790	.3
Peru	341	.....	.....	341	11,621	14,579	.....	3,326	29,867	7,331	....	....	.....	499	.....	168	.....	.....	224	8,222	....	38,089	2.5
West coast, So. America[1]	.....	.....	.....	.....	.....	.....	.....	54	54	.....	....	....	.....	10	.....	.....	.....	.....	1,172	1,182	....	1,236	.1
Totals, So. America	97,815	2,517	8,800	109,132	11,621	14,673	.....	7,137	142,563	33,129	....	....	645	2,283	12,129	982	.....	42	24,468	73,678	25	216,266	14.2
North America:																							
West coast, U. S.	829,169	16,879	79,240	925,288	15,185	876	96,698	4,483	1,042,530	44,150	24	437	8,812	167	108	.....	1,899	.....	19,303	74,900	....	1,117,430	73.4
West coast, Canada	19,856	.....	.....	19,856	3,291	.....	.....	.....	23,147	32,995	....	....	.....	.....	932	.....	12,522	.....	1,355	47,804	....	70,951	4.7
West coast, Central America	2,139	.....	252	2,391	.....	65	.....	6,889	9,345	97	....	....	160	.....	.....	78	1,703	.....	3,691	5,729	....	15,074	1.0
West coast, No. America[1]	12,652	.....	.....	12,652	.....	.....	.....	.....	12,652	2,103	....	....	.....	.....	97	.....	.....	.....	46	2,246	....	14,898	1.0
Totals, No. America	863,816	16,879	79,492	960,187	18,476	941	96,698	11,372	1,087,674	79,345	24	437	8,972	167	1,137	78	16,124	.....	24,395	130,679	....	1,218,353	80.1
Asia:																							
China	5,536	.....	5	5,541	.....	2,273	.....	.....	7,814	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	7,814	.5
Japan	362	.....	.....	362	.....	.....	.....	.....	362	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	362	.....
Philippines	24,113	.....	.....	24,113	.....	15	.....	.....	24,128	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	24,128	1.6
Far East[1]	15,606	.....	.....	15,606	.....	.....	.....	.....	15,606	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	15,606	1.0
Totals, Asia	45,617	.....	5	45,622	.....	2,288	.....	.....	47,910	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	49,910	3.1
Australasia:																							
Australia	5,095	.....	.....	5,095	.....	.....	.....	.....	5,095	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	5,095	.3
New Zealand	2,713	.....	.....	2,713	.....	.....	.....	.....	2,713	13,685	....	....	.....	.....	.....	.....	.....	.....	.....	13,685	....	16,398	1.1
Australasia[1]	6,010	.....	.....	6,010	.....	.....	.....	.....	6,010	.....	....	....	.....	.....	.....	.....	.....	8,800	3,900	12,700	....	18,710	1.2
Totals, Australasia	13,818	.....	.....	13,818	.....	.....	.....	.....	13,818	13,685	....	....	.....	.....	.....	.....	.....	8,800	3,900	26,385	....	40,203	2.6
Grand totals	1,021,066	19,396	88,297	1,128,759	30,097	17,902	96,698	18,509	1,291,965	126,159	24	437	9,617	2,450	13,266	1,060	16,124	8,842	52,763	230,742	25	1,522,732	100.0
Per cent of total cargo:																							
May, 1923	67.0	1.3	5.8	74.1	2.0	1.1	6.4	1.3	84.9	8.3	....	....	.6	.2	.9	.....	1.1	.6	3.4	15.1	....	100.0	.....
May, 1922	45.3	3.6	1.8	50.7	.....	.6	.2	2.7	54.2	28.1	.4	....	.3	5.1	1.3	.....	2.3	.....	8.1	45.6	.1	.....	.....
May, 1921	25.2	2.7	8.6	36.5	.....	1.5	.2	3.5	41.7	28.8	.5	.2	1.6	4.1	1.7	.....	.....	.....	18.7	55.6	.7	.....	.....

[1] General cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 30, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Kennecott [2]	23	15.45	24	6.40	24	14.14	24	15.58	American	Alaska Steamship Co	345.3	49.6	22.4	New York	Los Angeles	General, steel	5,426	4,593	3,381
Santa Gertrudis	23	20.00	24	6.48	24	14.23	24	15.26	British	San Antonio Steamship Co	238.6	36.0	16.0	Pto. Mexico	Mazatlan	(4)	869	1,492	835
Laura C. Hall [3]	22	20.40	24	6.23	24	15.01	25	13.04	British	Pacific Metals Corp	81.0	26.0	9.0	Cristobal	Buenaventura	Machinery	12	132	72
Cape Ann [1]	23	20.43	24	7.10	24	15.06	28	19.05	American	Cape Steamship Co	425.8	57.0	17.0	Mobile	Los Angeles	Ballast		7,484	5,216
Port Chalmers	23	22.01	24	7.55	24	15.49	24	17.00	British	Commonwealth & Dom. Line	449.0	55.0	27.0	London	New Plymouth	General	6,600	8,264	5,863
Antietan [1]	24	7.00	24	8.47	24	16.05	24	17.20	American	D. Berg. Ind. Alchol Co	435.6	56.2	18.0	New York	Los Angeles	Ballast		7,426	5,094
Agwihavre [1]	24	9.40	24	9.55	24	17.20	25	2.35	American	Agwi Steamship Co	480.5	66.0	19.0	New York	Los Angeles	Ballast		9,394	6,305
Santa Malta	24	10.23	24	10.40	24	18.16	24	19.26	American	Atlantic & Pacific Steamship Co.	404.6	53.9	28.1	Baltimore	Puget Sound	General	8,138	6,766	4,809
George Washington [2]	24	17.20	25	6.17	25	14.01	26	3.40	Norwegian	Peter Olsen	425.5	55.3	27.6	Kristiansund	San Francisco	General	9,263	7,505	5,627
Pacific	24	19.40	25	7.20	25	14.50	25	23.39	American	Argonaut Steamship Co	399.7	56.2	25.0	Baltimore	Honolulu	General	8,323	6,479	4,709
Ranenfjord	24	21.25	25	8.00	25	16.15	26	1.28	Norwegian	Norwegian American Line	385.0	50.0	27.0	London	Portland	(5)	6,612	5,821	4,108
Argon [1]	25	1.20	25	8.55	25	17.53	25	19.15	American	Standard Transportation Co	435.6	56.2	18.0	New York	Los Angeles	Ballast		7,386	5,137
Tyne Maru	25	6.40	25	9.18	25	18.51	26	14.55	Japanese	Kabushiki Kaisha K. Zosenjo	385.0	51.0	25.3	New York	Kobe	Gen., phosphates	7,574	6,251	4,700
Acme [1]	25	11.25	25	11.40	25	19.34	25	20.40	American	Standard Transportation Co	435.0	56.0	22.0	New York	Los Angeles	Ballast		7,165	4,627
H. H. Rogers [1]	25	14.31	26	6.30	26	13.52	26	15.14	American	Standard Oil Co	500.0	68.0	18.0	Baltimore	Los Angeles	Ballast		10,308	7,668
Oak Branch	26	5.35	26	7.25	26	14.24	26	23.50	British	Nautilus Steamship Co	385.0	49.9	17.0	Liverpool	Guayaquil	General	2,500	5,209	4,035
Agwilake [1]	26	7.03	26	8.47	26	16.28	26	22.48	American	Atlantic Gulf & W. I. S. S. Co	468.3	62.7	21.6	Boston	Los Angeles	Ballast		9,802	6,957
Newport	17	14.18	26	12.22	26	19.15	27	2.00	American	Pacific Mail Steamship Co	326.0	38.2	18.3	Cristobal	San Francisco	General	1,601	3,173	2,163
LaMarsellaise	23	5.46	27	6.15	27	14.43	27	20.00	French	Compagnie de Nav. Mixte	429.5	58.3	28.2	New York	Shanghai	(6)	8,200	8,175	5,641
Perene	26	14.48	27	6.35	27	15.36	27	16.45	Peruvian	Peruvian Line	284.1	39.1	15.0	Iquitos	Callao	Gen., lumber	904	2,168	1,529
Robert E. Hopkins [1]	26	17.42	27	7.22	27	16.18	27	17.38	American	Tidewater Oil Co	424.4	58.2	20.6	New York	Los Angeles	Ballast		7,333	5,244
Paul Luckenbach	26	21.00	27	7.50	27	16.44	27	17.38	American	Luckenbach Line	471.1	59.2	21.0	New York	Los Angeles	General	7,000	9,027	6,539
Chuky [1]	27	5.35	27	9.05	27	17.17	27	20.00	British	Sheridan Steamship Co	440.8	56.0	26.6	Tampico	Tocopilla	Crude oil	9,592	7,691	4,723
H. M. Storey [1]	27	9.23	27	9.40	27	18.05	27	19.20	American	Standard Oil Co	500.0	68.2	22.0	Baltimore	Los Angeles	Ballast		11,224	7,849
Herman Frasch	27	14.35	28	6.43	28	13.45	28	19.00	American	Union Sulphur Co	356.0	51.6	25.7	Sabine	Los Angeles	Sulphur	6,500	5,349	2,950
I. C. White [1]	27	19.03	28	7.35	28	15.00	28	16.15	American	Pan-American Pet. & Trans. Co.	429.3	59.2	21.0	New York	Los Angeles	Ballast		7,925	5,840
Moorish Prince	27	14.58	28	8.15	28	15.44	28	16.55	British	Prince Line, Ltd	425.5	56.4	26.10	New York	Shanghai	(7)	7,099	7,629	5,707
Agwisca [1]	28	7.50	28	8.40	28	16.34	28	21.10	American	Agwi Steamship Line	468.3	62.7	21.0	New York	Los Angeles	Ballast		9,802	6,961
Swifteagle [1]	28	10.05	28	10.35	28	18.35	28	23.40	American	Swiftsure Oil Co	464.0	60.0	28.0	Fall River	Los Angeles	Ballast		8,473	5,997
Urubamba	21	21.20	28	10.50	28	17.32	28	19.15	Peruvian	Peruvian Line	381.2	46.1	18.8	Cristobal	Callao	General	336	4,803	2,951
Dinteldijk [2]	25	20.47	28	11.42	28	20.03	28	22.03	Dutch	Holland-American Line	485.0	62.0	26.0	Rotterdam	San Francisco	General	8,503	10,786	7,551
El Oso [1]	28	17.13	29	6.20	29	14.03	29	18.32	British	Lobitos Oilfields, Ltd	440.5	57.5	18.6	London	Los Angeles	Ballast		7,478	4,964
Texan	28	15.20	29	7.15	29	14.42	29	15.45	American	American-Hawaiian Line	471.0	57.2	24.0	New York	Seattle	General	7,100	9,154	6,903
Sunoil [1]	28	22.58	29	8.05	29	16.10	29	23.28	American	Sun Oil Co	430.0	58.2	25.0	Middlesborough	Vancouver	Creosote	9,412	7,439	5,209
Steel Traveler	29	4.10	29	8.59	29	17.07	29	22.05	American	U. S. Steel Products Co	424.2	56.2	29.6	Baltimore	Batavia	Steel, general	9,286	7,698	5,509

[1] Tanker. [2] Motor ship. [3] Motor schooner. [4] Case oil and grease. [5] Pig iron and cement. [6] General, kerosene, sulphur, rosin and motor cars. [7] Gasoline, case oil and general.

Alden Anderson[1]	29	14.57	30	6.30	30	13.42	7-1	3.22	American	Associated Oil Co.	426.9	54.6	22.2	Fall River	Los Angeles	Ballast		7,340	5,236
Orcus	29	11.15	30	7.24	30	16.10	30	17.20	American	Wessel, Duval & Co. (S. B.)	380.2	53.1	14.3	New York	Talcahuano	General	788	5,667	4,227
John Worthington[1]	29	18.45	30	7.27	30	15.09	30	16.10	American	Standard Oil Co.	464.0	60.0	20.4	New York	Los Angeles	Ballast		8,491	6,096
City of Newcastle	30	6.25	30	8.20	30	17.00	30	18.04	British	Hall Line, Ltd.	456.5	56.4	18.6	Hull	San Francisco	(9)	916½	8,319	6,288
Circinus	30	7.15	30	8.40	1	13.40	1	20.06	American	Planet Steamship Corp.	410.0	54.2	25.0	Baltimore	San Francisco	(10)	7,805	6,585	4,791
No. 2072[8]	28		30		30	10.00			Panaman	A. Sardie				Gatun Lake	Cristobal	Unknown		3	3
Montrolite[1]	30	0.10	30	11.20	30	18.24	30	22.04	British	Imperial Oil Co.	421.0	57.3	15.8	Habana	Talara	Ballast		7,378	4,752
S. C. T. Dodd[1]	30	11.40	30	11.50	30	19.09	30	20.22	American	Standard Oil Co.	425.0	57.2	21.0	Port Arthur	San Francisco	Ballast		7,481	4,975
Alameda[1]	30	11.45	30	noon	30	19.55	30	20.25	American	H. A. & G. Craig	430.0	58.2	23.0	New York	Los Angeles	Ballast		7,425	5,356

[1] Tanker. [8] Cayuca. [9] Joists, oil rags, alum, and copal. [10] General, steel, iron pipe.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

W. W. Mills[1]	23	14.30	24	7.24	24	14.25	24	14.25	American	Pure Oil Steamship Co.	424.4	58.2	27.6	Los Angeles	Marcus Hook	Crude oil	10,432	7,353	5,119
Livingston Roe[1]	23	21.30	24	7.55	24	15.41	24	15.41	American	Standard Oil Co. of N. J.	462.4	60.2	27.6	Los Angeles	New York	Crude oil	11,796	8,491	6,065
Santa Cecelia	24	7.30	24	8.47	24	15.47	24	15.47	American	Planet Steamship Co.	404.6	53.9	26.6	Vancouver	New York	Lumber, general	5,500	6,745	4,562
J. N. Pew[1]	24	9.10	24	9.50	24	17.30	24	17.30	American	Sun Oil Co.	480.5	66.0	28.4	Los Angeles	Philadelphia	Crude oil	13,300	9,493	6,612
Ohioan	24	7.55	23	11.40	24	18.25	24	18.25	American	American-Hawaiian Line	407.7	53.7	22.0	Los Angeles	New York	General	4,651	7,112	4,896
Fearless[11]	24	13.30	25	6.50	25	15.35	26	6.45	American	Whitney, Bodden Brokerage Co.	182.4	38.5	17.6	Bellingham	Antilla	Fur lumber	(13)	777	670
Commercial Trader	24	21.10	25	6.59	25	15.50	25	16.35	American	Moore & McCormick	399.0	51.0	23.0	Vancouver	New York	Lumber, general	5,120	6,189	4,454
Radames	24	23.50	25	7.48	25	15.53	25	19.00	German	Kosmos Line	380.7	47.0	23.1	Valparaiso	Hamburg	General	5,100	4,970	3,486
Cerro Azul[1]	25	2.45	25	8.23	25	16.57	25	16.57	American	Huasteca Petroleum Co.	480.5	66.0	28.0	Los Angeles	New Orleans	Crude oil	11,000	9,398	6,453
Birmingham City[1]	25	2.33	25	8.57	25	17.40	25	20.20	American	Isthmian Line	395.5	55.0	23.6	Vancouver	United Kdm.	Lumber, general	9,340	6,886	4,675
Balboa	25	7.18	25	10.23	25	18.40	27	22.15	Colombian	Compania Costanera Colombiana	190.0	29.1	15.0	Buenaventura	Pto. Colombia	General	569	736	335
Santa Ana	25	7.05	25	11.50	25	18.45	25	22.20	American	Grace Line	360.2	51.6	25.0	Valparaiso	New York	(14)	3,834	5,776	4,081
Cauca	24	24.00	25	12.14	25	19.50			British	Pacific Steam Navigation Co.	246.0	25.2	14.7	Champerico	Cristobal	General	792	1,589	1,018
Theben	25	9.30	25	12.18	26	13.05	26	16.20	German	Kosmos Line	339.0	48.0	19.6	Victoria	Boston	Lumber	2,753	4,094	2,924
Mina Brea[1]	25	13.40	25	14.44	25	23.00	26	1.15	British	Imperial Oil Co.	300.3	49.2	24.0	Talara	Habana	Crude oil	5,910	4,437	2,717
Agwiworld[1]	25	11.00	25	15.05	25	23.36	25	23.36	American	Ward Line	429.3	59.2	26.6	Los Angeles	New Orleans	Crude oil	10,100	7,624	5,409
W. F. Burdell[1]	24	17.36	26	6.49	26	14.47	26	14.47	American	Pure Oil Steamship Co.	435.0	56.0	26.0	Los Angeles	Philadelphia	Crude oil	(15)	7,433	5,092
Solano[1]	25	17.45	26	7.56	26	15.53	26	15.53	American	Pacific Mail Steamship Co.	419.5	56.5	27.6	Los Angeles	Fall River	Fuel oil	11,000	7,060	5,025
Rotorua	25	8.30	26	8.55	26	16.38	26	23.59	British	New Zealand Shipping Co.	526.4	61.4	25.6	Wellington	London	Frozen, general	5,338	12,846	9,439
Cecil County[1]	25	23.30	26	9.46	26	18.15	26	22.50	American	Walker & Daly (S. B.)	431.0	59.2	25.0	Los Angeles	Fall River	Crude oil	9,635	8,097	5,261
Marinula[1]	26	4.00	26	10.55	26	19.30	26	23.45	British	Anglo-Saxon Petroleum Co.	440.0	54.3	28.0	Los Angeles	Balboa[16]	Bulk fuel oil	8,383	7,631	5,238
British Workman[1]	26	6.00	27	7.08	27	14.53	27	14.53	British	British Tanker Co.	440.4	57.0	27.6	San Francisco	Lands End[16]	Fuel oil	9,477	7,707	5,027
R-23[12]			27	7.11	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
R-27[12]			27	7.11	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
O-13[12]			27	7.11	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
O-16[12]			27	7.11	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
O-11[12]			27	7.17	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
O-14[12]			27	7.17	27	14.50			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
Mackworth	26	18.00	27	8.07	27	16.14	27	16.14	British	R. S. Dagliesh, Ltd.	345.0	48.0	24.6	Iquique	New Orleans	Nitrate of soda	6,300	4,364	3,235
Fred W. Weller[1]	27	1.30	27	9.12	27	17.25	27	17.35	American	Standard Oil Co.	500.0	68.0	29.6	Los Angeles	New York	Crude oil	15,382	10,928	7,710

[1] Tanker. [11] Sail boat. [12] Submarine. [13] 837,000 board feet. [14] Copper, nitrate, cotton, etc. [15] 71,990 barrels. [16] For orders.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Cacique	27	5.55	27	9.57	27	17.45	27	17.45	American	Pacific Mail Steamship Co	394.2	52.3	28.10	San Francisco	Baltimore	(19)	7,200	6,652	4,913
Leon XIII	27	9.10	27	11.00	27	18.44	29	2.30	Spanish	Spanish Royal Mail Line	412.7	43.1	20.6	Valparaiso	Barcelona	General	84	5,521	3,729
Agwistar	27	9.40	27	11.17	27	19.35	27	19.35	American	American-Hawaiian Line	370.0	53.1	21.0	Tacoma	Baltimore	General, shingles	5,000	5,523	4,068
Birmingham			28	8.35	28	14.55	30	17.30	American	U. S. Navy	416.0	45.0	18.0	Balboa	Cristobal				
Sciota			28	8.38	28	17.42			American	U. S. Navy	155.0	30.0		Balboa	Cristobal				
Benvorlich	28	9.50	28	10.52	28	17.50	28	20.50	British	Ben Line Steamers, Ltd	400.6	52.2	21.6	Suva	Pasages	Copra	5,185	5,770	4,073
John D. Rockefeller[1]	28	10.00	28	11.13	28	19.02	28	19.02	American	Standard Oil Co. of N. J	458.3	60.0	26.0	Los Angeles	New York	Crude oil	10,291	8,633	6,314
Havre Maru	28	11.55	28	13.31	28	20.30	28	20.30	Japanese	Osaka Shosen Kaisha	407.3	50.1	21.0	Singapore	New York	(20)	4,413	6,234	4,496
Munaires	28	4.00	28	14.50	28	21.40	29	1.10	American	Munson Line	370.0	53.1	23.0	Tacoma	New York	Lumber	5,260	5,577	4,225
Breckenridge[17]			28	8.00	28	9.56			American	U. S. Army				Balboa	Miraflores				
Walter Jennings[1]	28	18.30	29	7.29	29	15.31	29	15.31	American	Standard Oil Co. of N. J	499.2	58.1	30.0	Los Angeles	New York	Crude oil	17,000	11,038	7,995
British Light[1]	28	23.00	29	7.56	29	16.40	29	17.58	British	British Admiralty	419.7	54.4	26.6	Los Angeles	Tampico	Crude oil	8,473	6,763	4,374
James McGee[1]	29	7.30	29	9.49	29	17.48	29	17.48	American	Standard Oil Co. of N. J	499.1	68.2	29.6	Los Angeles	New York	Crude oil	7,700	10,964	7,909
Margaret Coughlan	28	23.00	29	11.19	29	19.00	29	20.00	British	Ocean Carriers Co., Inc., N. Y.	411.5	54.1	24.6	Vancouver	Montreal	(21)	7,400	6,624	4,998
Mexican	29	5.30	29	12.20	29	20.05	29	20.05	American	American-Hawaiian Line	472.3	57.2	27.6	Los Angeles	New York	General, lumber	9,439	9,258	6,874
Crowl[17]			29	10.25	29	11.16			American	U. S. Army				Balboa	Miraflores				
O-12[18]			30	7.28	30	15.35			American	U. S. Navy	175.0	16.4		Balboa	Cristobal				
J. W. Clise	29	7.30	30	7.26	30	16.57			American	L. A. Scott	185.6	41.0	18.5	Port Townsend	Nuevitas	Oregon pine	(22)	860	733
Artigas	29	17.15	30	7.57	30	15.42	30	15.42	American	N. Atlantic & Western S. S. Co.	390.0	54.2	24.6	Seattle	Philadelphia	Lumber, general.	6,525	6,204	4,314
Salvador	30	6.35	30	8.52	30	16.15			British	Pacific Steam Navigation Co	225.0	35.4	12.3	Champerico	Cristobal	(23)	110	1,270	735
Jan Van Nassau	30	8.20	30	9.38	30	17.15	1	8.05	Dutch	Royal Netherlands W. I. Mail	346.2	44.3	21.6	Valparaiso	Hamburg	General	3,930	3,819	2,632
Neponset	30	9.00	30	10.54	30	18.05	30	18.05	American	A. E. Mittnacht (S. B.)	434.3	57.6	22.6	San Francisco	New York	General	4,576	7,893	5,621
Valdez	30	12.50	30	11.19	30	19.40	1	8.05	American	Norton, Lilly & Co	244.0	43.2	18.6	Grays Harbor	New York	Lumber fir	(24)	2,545	1,938
David McKelvy[1]	30	2.00	30	12.16	30	20.18	30	20.18	American	Tidewater Oil Co	430.0	59.1	26.0	Los Angeles	New York	Crude oil	10,600	7,629	5,393
San Juan	30	9.00	30	13.54	30	21.45			American	Pacific Mail Steamship Co	283.0	37.0	14.3	San Francisco	Cristobal	(25)	750	2,379	1,593
Alvarado	30	13.20	30	14.21	30	23.02	1	2.35	American	Swayne & Hoyt	245.0	41.5	24.0	Seattle	New Orleans	General	1,677	2,122	1,504

[1] Tanker. [17] Launch. [18] Submarine. [19] Lumber, copper, canned goods. [20] Oil, rubber, and general. [21] Lumber, and canned salmon. [22] 905,516 board feet. [23] Coffee, hides, wood, and raw cotton. [24] 15,000,000 board feet. [25] Coffee, sugar, and general merchandise. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
June 24	Toloa	United Fruit Co	Port Limon.	June 24	P. de LaTouche	French Line	Havre via wayports.
June 24	Abangarez	United Fruit Co	New Orleans via Habana.	June 24	Toloa	United Fruit Co	New York via Habana.
June 24	Camden	United Fruit Co	Tampico.	June 25	Camden	United Fruit Co	Tampico.

*Other than ships passing through the Canal.

(Continued on page 628, column 2.)

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending June 30, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged.	Cargo— Laded.
				Tons.	*Tons.*
Venezuela	Pacific Mail Steamship Line		June 17		15
Adalia	Hamburg-American Line		June 17		10
Ulua	United Fruit Co	June 17	June 17	24	83
Zacapa	United Fruit Co	June 17	June 18	39	154
Palena	Chilean Line	June 17	June 21	67	545
Alvarado	Pacific Mail Steamship Line	June 18	June 18	290	36
Heffron	Tampa Interocean S. S. Co. (S.B.)	June 18	June 19	200	(1)
Cristobal	Panama Railroad Steamship Line		June 19		2,716
Delft	Royal Netherlands W. I. Mail	June 18	June 19	107	36
Toloa	United Fruit Co	June 19	June 20	242	30
Ucayali	Peruvian Line		June 20		426
Tivives	United Fruit Co	June 20	June 21	80	123
Parismina	United Fruit Co	June 20	June 21	846	101
Santa Luisa	Grace Line	June 20	June 21	40	(2)
Bologna	Italian Line	June 20	June 22	156	(1)
Almagro	Pacific Steam Navigation Co	June 20	June 22	52	222
Chiton	Anglo-Saxon Petroleum Co	June 20	June 22	7,529	(1)
San Bruno	United Fruit Co	June 20	June 21	10	44
Junin	Pacific Steam Navigation Co	June 20	June 21	234	665
Urubamba	Peruvian Line	June 21		1,324	
Zenon	French Line	June 21	June 22	52	15
Pellerin de LaTouche	French Line	June 21	June 22	364	543
Teno	Chilean Line	June 21	June 22	24½	2
Zacapa	United Fruit Co	June 21	June 22	¾	¼
Laura C. Hall	Pacific Metals Corp	June 22		50	
Coronado	United Fruit Co	June 23	June 23	1½	¼
Oroya	Pacific Steam Navigation Co	June 23	June 23	69	(1)
Toloa	United Fruit Co	June 24	June 24	5	53
Laura C. Hall	Pacific Metals Corp		June 24		12½
Gen. W. C. Gorgas	Panama Railroad Steamship Line	June 24		1,965	
Abangarez	United Fruit Co	June 24	June 25	313	245
Camden	United Fruit Co	June 24	June 25	4,218	
Balboa	Compania Costancia Colombiana	June 25	June 27	541	18
Cauca	Pacific Steam Navigation Co	June 25		797	
Dinteldijk	Holland-American Line	June 25	June 28	244	110
Van Rensselaer	Royal Netherlands W. I. Mail	June 26	June 27	625	(3)
Calamares	United Fruit Co	June 26	June 27	275	434½
San Blas	United Fruit Co	June 27	June 27	8	¼
Metapan	United Fruit Co	June 27	June 28	86	753¾
Cartago	United Fruit Co	June 27	June 28	797	144
Tivives	United Fruit Co	June 27	June 28	(1)	102
Gen. O. H. Ernst	Panama Railroad Steamship Line	June 27	June 29	308	(3)
Leon XIII	Spanish Line	June 27	June 29	(1)	783
Abangarez	United Fruit Co	June 28	June 28	(2)	(4)
Urubamba	Peruvian Line		June 28		336
Jacob Christensen	Munson Line		June 29		5,632
Van Rensselaer	Royal Netherlands W. I. Mail	June 30	June 30	1	441
Salvador	Pacific Steam Navigation Co	June 30		110	
Essequibo	Pacific Steam Navigation Co	June 30		269	
Jan Van Nassau	Royal Netherlands W. I. Mail	June 30		98	
San Juan	Pacific Mail Steamship Line	June 30		763	

[1] No cargo discharged. [2] 456 pounds. [3] No cargo laded. [4] 1 case.

Supplement No. 13 to Tariff No. 6.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., June 29, 1923.

ITEM 22.—FUEL AND DIESEL OILS.

(Effective June 22, 1923.)

2. Diesel oil, per barrel of 42 gallons, delivered to vessels at Cristobal..... $2.35

(Effective July 1, 1923.)

Change to read:

3. Pumping oil into and out of private tanks, 4 cents per barrel, each way, excepting, that between the hours of 11 p. m. and 7 a. m., an additional charge of $4.70 per hour will be made for pumping cargoes from ships into storage tanks, and an additional charge of $10 per hour will be made for pumping oil from storage tanks into ships between these hours, based on pumping crew's time, not on actual pumping time. Any oil will be handled for storage by The Panama Canal with viscosities up to 300 seconds at 122° F. (Saybolt Furol.)

JAY J. MORROW,
Governor, The Panama Canal.
President, Panama Railroad Company.

Executive Order.

The area of land hereinafter described, situated in the Canal Zone and adjoining the Balboa Naval Radio Station (as described in executive orders dated May 26, 1914 and May 28, 1918), is hereby set apart for naval purposes under the control of the Secretary of the Navy, but said area shall be subject to the civil jurisdiction of the Canal Zone authorities in conformity with the Panama Canal Act.

The said area is described as follows:

Addition to Balboa Naval Radio Station starting at a monument at the intersection of the westerly side of Amador Road (50 ft. width) with the northerly boundary of the Balboa Naval Radio Station as shown on map No. 3836 by the Department of Construction and Engineering, Isthmian Canal Commission, dated January 30, 1914; thence along said westerly side of Amador Road on an azimuth of 158° 37′ (zero azimuth is south), a distance of 121.0 feet to a monument; thence on an azimuth of 68° 37′, a distance of 250.0 feet to a monument; thence on an azimuth of 338° 37′, a distance of 271.0 feet to a monument set in the aforesaid northerly boundary of Balboa Naval Radio Station; thence along said northerly boundary of Balboa Naval Radio Station on an azimuth of 217° 40′, a distance of 291.5 feet to the point and place of beginning:

All as shown on drawing #7, issued by the Public Works Office, 15th Naval District, Balboa, Canal Zone, dated March 16, 1923.

WARREN G HARDING

THE WHITE HOUSE,
May 16, 1923.

[No. 3848]

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective July 3, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.26
Metal, yellow	Lb.	.25
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.35
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in drums	Gal.	.61
Oil, engine, gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in drums	Gal.	.475
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, kerosene, in drums	Gal.	.175
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.14
Paint, lead, white, in oil	Lb.	.15
Paint, zinc, white, dry	Lb.	.14
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m., and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Official Publications of Interest to Shipping.

Masters may obtain from the office of the Captain of the Port, at either Cristobal or Balboa, without charge, the "Rules and Regulations for the Operation and Navigation of the Canal—Sailing Directions—General Information," and the current Tariff of charges at the Canal for supplies and services.

Requests for Canal publications sent by mail should be addressed to: The Panama Canal, Balboa Heights, C. Z.; or, when more convenient, to The Panama Canal, Washington, D. C.

The Hydrographic Office at Cristobal maintains at all times a complete stock of navigational charts and books, including charts of all parts of the world, sailing directions of the world, nautical tables, light lists, tide tables, nautical almanacs, etc.

Copies of current issues of Pilot Charts, Notices to Mariners, and Hydrographic Bulletins may be obtained in return for marine information.

Observations of weather, ocean currents, and other marine data collected, and blanks, instructions, barometer comparisons, etc., furnished.

Correct time is maintained and chronometers rated.

Toll Charges for Transit of The Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity ..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton ..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls, but a charge will be made for pilotage in such cases, as provided in Paragraph 4, Item 3, of this tariff, and for handling lines in accordance with Item 4, of this tariff.

Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.75 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil. $1.35 to $1.50 per barrel at Cristobal, and $1.35 to $1.75 at Balboa; Diesel oil, Balboa only, $2.35 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Sale of Surplus Material and Equipment.

The Panama Canal offers for sale, by direct purchase at moderate prices, a quantity of telephones, telephone ringers and bells, bank check writers and protectors, small tools and other miscellaneous articles of general utility. These articles may be inspected at the Obsolete Section of the General Storehouse, Balboa, and purchased through the office of the General Storekeeper. Detailed information with prices may be secured by telephone by calling Balboa No. 120.

Sale of Oil Drums.

The Panama Canal offers for sale 300 drums which have been used for handling crude oil, larvacide, etc., at a price of $1 each, without surcharge, f. o. b. Cristobal Storehouse, where these drums are located. Arrangements for purchase may be made with the Storekeeper, Supply Department, Cristobal, or the General Storekeeper, Balboa.

Binders for The Panama Canal Record

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 624.

PORT OF CRISTOBAL.—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
June 24	Gen. W. C. Gorgas	Panama Railroad Steamship Line.	New York via Haiti.
June 25	Calamares	United Fruit Co.	New York Via Habana.
June 26	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
June 27	Cartago	United Fruit Co.	New Orleans via Habana.
June 27	San Blas	United Fruit Co.	Boston via Habana.
June 27	Metapan	United Fruit Co.	New York via Kingston.
June 27	Tivives	United Fruit Co.	Colombian ports.
June 28	Abangarez	United Fruit Co.	Bocas.
June 29	Casiana [26]	Edward L. Doheny	Jacksonville and wayports
June 30	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.

[26] Yacht.

Date.	Vessel.	Line.	From—
June 25	Cathwood	Union Oil Co.	Port San Luis.
June 26	Eastern Gale	General Steamship Corp. (S. B.)	Talcahuano.

PORT OF BALBOA.

*DEPARTURES.

Date.	Vessel.	Line.	For—
June 25	Abangarez	United Fruit Co.	Bocas.
June 27	Van Renselaer	Royal Netherlands W. I. Mail	Port Limon.
June 27	Calamares	United Fruit Co.	Port Limon.
June 27	San Blas	United Fruit Co.	Boston via Port Limon.
June 28	Metapan	United Fruit Co.	New York, via Colombia and Kingston.
June 28	Cartago	United Fruit Co.	New Orleans via wayports.
June 28	Tivives	United Fruit Co.	New York via Kingston.
June 28	Abangarez	United Fruit Co.	New Orleans.
June 30	Van Renselaer	Royal Netherlands W. I. Mail	Amsterdam via wayports.
June 30	Jacob Christensen	Munson Line	Sparrows Point.
June 24	Acasta	Anglo-Saxon Petroleum Co.	Los Angeles.
June 25	W. J. Hanna	Standard Oil Co. of N. J.	Tahara.
June 26	Cathwood	Union Oil Co.	Los Angeles.
June 26	Eastern Gale	General Steamship Corp. (S. B.)	Tacoma.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., July 11, 1923. No. 48.

Traffic for Fiscal Year Ending June 30, 1923.

Commercial traffic through the Panama Canal for the fiscal year ending June 30, 1923, was greater by approximately one-half over that of any preceding year. The summary for the past fiscal year, as compared with the fiscal years of 1920, 1921, and 1922, shows the following:

Fiscal Year.	No. of vessels.	Panama Canal net tonnage.	Tolls.[1]	Cargo tonnage.
1920	2,478	8,546,044	$8,513,933.15	9,374,499
1921	2,892	11,415,876	11,276,889.91	11,599,214
1922	2,736	11,417,459	11,197,832.41	10,884,910
1923	3,967	18,605,786	17,508,199.57	19,567,875

[1] Exclusive of launches.

As compared with the fiscal year 1922, the number of transits showed an increase of 45 per cent, the net tonnage an increase of 63 per cent, the tolls an increase of 56 per cent, and the cargo tonnage an increase of 80 per cent.

The average daily traffic for each of the above fiscal years was as follows:

Fiscal Year.	No. of vessels.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
1920	6.8	23,350	$23,262.11	25,613
1921	7.9	31,276	30,895.59	31,779
1922	7.5	31,281	30,678.99	32,562
1923	10.9	50,975	47,967.67	53,611

TRAFFIC HEAVIER DURING LAST 6 MONTHS OF YEAR.

Traffic during the last 6 months of the fiscal year showed a considerable increase over that for the first 6 months. The traffic by 6-month periods was as follows:

Fiscal Year, 1923.	No. of transits.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
July–December	1,640	7,305,349	$7,002,043.38	7,923,063
January–June	2,327	11,300,437	10,506,156.19	11,644,812
Totals	3,967	18,605,786	17,508,199.57	19,567,875

The cargo tonnage moving through the Canal during the last 6 months of the fiscal year exceeded the total cargo passing through the Canal during any entire preceding fiscal year.

For the first 6 months of the fiscal year the average daily number of transits were 8.9 and the average daily tolls $38,054.58, while for the last 6 months of the year daily transits average 12.85 and tolls $58,045.06.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 7, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Halsey [1]	30	16.17	7–1	6.50	7–1	14.15	7–1	18.10	American	Malston Steamship Co	435.0	56.0	23.0	New York	Los Angeles	Ballast		7,642	5,324
Delaware Sun [1]	30	16.23	1	7.15	1	14.42	1	19.11	American	Sun Oil Co	480.5	66.0	21.0	Philadelphia	Los Angeles	Ballast		9,402	6,586
Rochester [2]	28	12.35	1	7.45	1	15.41			American	U. S. Navy	384.0	64.9	28.3	New York	Balboa	Ballast			
Suedco	30	23.35	1	8.10	1	16.19	1	17.39	American	Submarine Boat Corp	324.0	46.2	19.0	Newark	Los Angeles	General, steel	3,000	3,984	2,612
Elswick Park	30	21.55	1	8.45	1	16.37	1	17.55	British	Elswick Steamship Co	364.0	51.0	14.6	Baltimore	Humbolt Bay	Ballast		5,063	3,525
Bohemian Club [1]	7–1	2.35	1	9.10	1	17.02	1	18.10	American	Atlantic Refining Co	425.0	57.3	18.0	Philadelphia	Los Angeles	Ballast		7,204	4,769
Lio [1]	1	12.05	1	12.25	1	19.23	2	14.00	American	McAllister Bros. (S. B.)	431.0	59.2	20.0	Philadelphia	San Francisco	Ballast		7,817	5,082
Essequibo	30	21.37	1	13.30	1	20.18	1	21.18	British	Pacific Steam Navigation Co	450.0	57.0	24.0	New York	Valparaiso	General	2,585	9,099	6,117
Miss Cristobal [3]			1		1				American	T. C. Knapp				Cristobal	Balboa	Ballast		2	2
Bernice G. [3]	28		1		1	8.39			American	O. E. McCoin				Cristobal	Gatun Lake	Ballast		2	2
U. S. S. Kanawha [1]	7–1	6.55	2	5.55	2	12.45	4	2.30	American	U. S. Navy	455.0	56.0	22.6	Key West	Los Angeles	Ballast			
Chas. R. McCormick	1	13.30	2	7.15	2	14.40	3	17.45	American	McCormick Intercoastal Co	401.0	53.2	27.2	New York	Los Angeles	Steel, general	8,212	7,082	5,167
Losada [4]	1	3.05	2	7.41	2	15.02	2	16.20	British	Pacific Steam Navigation Co	406.1	54.2	20.2	Hull	Valparaiso	General	4,416	7,221	4,844
Oregonian	2	5.20	2	8.27	2	15.45	2	17.10	American	American-Hawaiian Line	406.8	51.1	26.0	Baltimore	Tacoma	General	6,700	5,959	4,203
Steel Scientist	2	6.25	2	9.10	2	16.38	2	20.55	American	U. S. Steel Products Co	424.2	56.2	25.5	New York	San Diego	General, steel	7,809	7,611	5,454
Gold Shell [1]	2	6.32	2	10.10	2	17.17	2	18.35	American	Gold Shell Steamship Co	411.6	53.4	21.6	Tampico	Los Angeles	Ballast		6,201	4,336
Almelo	1	13.15	2	11.35	2	19.05	2	20.12	Dutch	Royal Netherlands W. I. Mail	440.0	62.6	19.11	Curacao	Corral	General	3,949	9,403	6,653
Sunbeam [1]	2	11.43	2	12.05	2	20.06	3	4.40	American	Sun Oil Co	429.3	59.2	19.1	New York	Los Angeles	Ballast		7,709	5,481
Juvigny	2	12.45	2	13.08	2	21.03	3	3.19	American	Independent Steamship Co	251.0	43.6	21.6	Galveston	Portland	Sulphur	3,418	2,653	1,611
Eastern Moon	2	14.47	3	6.18	3	13.47	3	15.00	American	U. S. & A. Line (S. B.)	384.8	51.2	23.6	New York	Brisbane	(6)	8,000	5,904	4,321
Kosmo	2	15.52	3	7.30	3	14.57	3	16.20	British	Ellerman, Bucknell Line	420.0	54.1	22.0	New York	Auckland	General	3,562	6,599	4,992
George Allen	2	20.21	3	7.35	3	15.56	3	20.26	American	Garland Steamship Co	385.3	51.3	19.6	New York	Seattle	General	5,404	6,224	4,465
Imlay [1]	2	22.35	3	8.35	3	16.46	3	21.58	American	Malston Steamship Co	425.8	57.0	19.6	New York	San Pedro	Ballast		7,218	4,959
City of Christiania	2	7.35	3	8.55	3	16.50	3	18.40	British	Ellerman Lines, Ltd	380.1	53.0	22.3	New York	Adelaide	General	4,000	6,440	4,822
Glyndon	3	0.15	3	9.06	3	17.40	4	.01	American	Glyndon Steamship Co	289.0	44.1	19.0	Freeport	San Francisco	Sulphur	3,053	2,939	2,024
Mojave [1]	3	4.10	3	10.05	3	19.00	4	1.10	American	General Petroleum Co	435.0	56.2	19.0	Rouen	Los Angeles	Ballast		7,434	5,066
Yorba Linda [1]	3	6.30	3	10.45	3	19.20	3	20.40	American	General Petroleum Co	435.0	56.2	21.0	Point Breeze	San Pedro	Ballast		7,424	5,077
Patuxent [5]			3	10.05	3	18.33			American	U. S. Navy	156.0	29.0		Cristobal	Balboa	(7)			
Agamemnon	3	11.00	4	6.15	4	13.03	4	14.23	British	Ocean Steamship Co	442.1	52.0	27.10	Boston	Shanghai	General	6,769	7,004	4,849
Gymeric [1]	3	18.00	4	7.25	4	14.15	4	15.22	British	Andrew Weir & Co	420.3	54.6	19.2	Southampton	San Francisco	Ballast		6,501	4,459
S. B. Hunt [1]	3	19.46	4	7.55	4	14.41	4	15.48	American	Standard Oil Co	429.3	59.2	25.8	New York	San Pedro	Ballast		7,652	5,522
Edward L. Doheny III [1]	3	22.55	4	8.55	4	15.20	4	16.30	American	Pan-American Petroleum Co	467.6	62.7	21.0	Providence	Los Angeles	Ballast		9,666	7,034
Hugoton [1]	4	1.15	4	9.11	4	16.07	4	20.59	American	C. D. Mallory & Co	434.8	56.2	21.0	Baton Rouge	San Pedro	Ballast		7,429	5,141

[1] Tanker. [2] Cruiser. [3] Launch. [4] Motor ship. [5] Tug. [6] General, petroleum products, gasoline and case oil. [7] Towing lighter III.

Hagood[1]	4	1.55	4	9.50	4	16.44	4	18.12	American	Cities Service Corp	435.6	56.2	19.0	Philadelphia	Los Angeles	Ballast		7,426	5,123
Canada[8]	4	3.35	4	10.50	4	18.45	5	15.47	Swedish	Johnson Line	426.9	56.2	25.6	Gothenborg	San Francisco	General	8,556	7,476	5,456
Knight Companion	4	11.20	4	11.35	4	17.51	4	22.55	British	Alfred Holt & Co	470.4	58.0	23.0	Glasgow	Seattle	General	6,776	8,546	6,263
Toba Maru	4	6.05	4	12.15	4	19.31	4	20.23	Japanese	Nippon Yusen Kaisha	445.0	58.0	22.8	New York	Yokohama	General	5,932	8,058	5,743
Arabien	4	15.12	5	6.25	5	14.30	5	18.46	Danish	Orient Steamship Co	385.0	53.3	27.8	New York	Manila	(12)	7,874	6,080	4,607
Santa Teresa	4	18.07	5	6.25	5	13.42	5	14.50	American	Grace Line	360.2	51.6	25.0	New York	Talcahuano	General	2,618	5,726	4,086
Point Lobos	4	18.47	5	6.30	5	14.53	5	19.26	American	Pacific Mail Steamship Co	289.0	44.0	20.0	Mobile	San Francisco	General	3,100	2,895	1,967
K. I. Luckenbach	5	3.15	5	7.12	5	15.57	5	19.26	American	Luckenbach Line	446.0	56.0	31.0	Boston	Seattle	General	9,000	8,552	6,236
Sutransco	5	4.20	5	7.40	5	16.25	5	17.54	American	Transmarine Corp	324.0	46.2	16.6	Newark	Seattle	General	1,700	3,984	2,612
Cissy	4	15.01	5	7.47	5	16.33	5	17.54	Norwegian	Torp & Wiese	289.5	44.2	19.4	New Orleans	Talcahuano	General	2,204	2,976	2,119
Agwipond[1]	5	6.00	5	8.52	5	17.14	5	22.18	American	Atlantic Gulf & W. I. S. S. Co	468.3	62.7	28.5	Baltimore	San Pedro	Ballast		9,810	7,018
Chicago Maru	5	7.50	5	8.38	5	17.22	5	18.51	Japanese	Osaka Shosen Kaisha	410.0	51.0	29.0	Galveston	Los Angeles	General	3,518	6,123	4,282
Huasco	1	17.15	5	10.00	5	17.56	5	18.58	Chilean	Chilean Line	380.0	44.0	21.3	Cristobal	Valparaiso	General	482	4,552	3,182
Minerie	4	21.05	5	10.10	5	18.51	5	23.19	British	Bank Line, Ltd	405.0	52.0	25.0	Philadelphia	Shanghai	General	5,688	6,139	4,698
Saint Andre	4	5.32	5	11.15	5	19.24	5	20.21	French	French Line	397.9	50.3	20.4	Havre	Talcahuano	General	5,764	5,917	4,146
Swiftwind[1]	5	11.10	5	11.30	5	20.14	5	23.39	American	Swiftsure Oil Transportation Co	464.0	60.0	18.0	Fall River	Los Angeles	Ballast		8,473	5,997
Ballena	5	8.50	5	12.20	5	21.04	5	22.12	British	Pacific Steam Navigation Co	400.0	52.0	22.0	Rotterdam	Corral	General	5,304	5,816	4,113
Agwismith[1]	5	17.06	6	6.25	6	15.21	6	18.54	American	Atlantic Gulf & W. I. S. S. Co	499.9	68.1	19.8	New York	San Pedro	Ballast		10,600	7,447
Dakotan	5	18.17	6	7.25	6	16.00	6	20.46	American	American-Hawaiian Line	407.7	53.7	28.0	New York	Los Angeles	General	5,656	7,156	5,058
Vacoil[1]	5	18.39	6	8.03	6	16.32	6	22.25	American	Vacuum Oil Co	340.1	49.2	16.0	New York	Los Angeles	Ballast		4,566	2,844
Meiyo Maru	5	20.30	6	8.35	6	16.55	6	18.25	Japanese	Toyo Kisen Kaisha	400.0	53.0	25.0	New York	Yokohama	General	3,839	6,163	4,376
Montgomery City	6	7.35	6	9.15	6	17.16	6	18.54	American	U. S. Steel Products Co	424.2	56.2	25.0	Mobile	Yokohama	(13)	7,205	7,611	5,450
Gen. G. W. Goethals	4	20.45	6	10.40	6	18.08	7	4.11	American	Panama Railroad Steamship Line	353.0	48.7	23.8	New York	Guayaquil	Gen., cement	1,065	5,226	3,617
Havana Maru	6	11.10	6	11.20	6	18.48	6	19.56	Japanese	Osaka Shosen Kaisha	407.0	50.0	26.2	New York	Cuba	General	4,894	6,234	4,500
J. A. Bostwick[1]	5	6.20	6	13.25	6	19.41			American	Standard Oil Co	465.2	60.0	20.0	Jacksonville	Los Angeles	Gasoline	830	8,511	5,981
Bernice G.[9]	3		6		6	10.32			American	O. E. McCoin				Cristobal	Gatun Lake	Ballast		2	2
Guardian[10]	6	16.00	7	6.20	7	13.22			American	All America Cables	278.4	36.4	18.5	Cristobal	Balboa	(14)			
Elisha Walker[1]	6	21.27	7	7.35	7	14.48	7	16.27	American	Pan-American Petroleum Co	429.3	59.2	22.0	New York	Los Angeles	Ballast		7,978	5,971
Lompoc[1]	7	8.00	7	8.10	7	15.33	8	12.43	British	C. T. Bowring & Co	435.3	55.0	20.0	Tampico	San Pedro	Ballast		7,496	5,311
Suboatco	7	4.55	7	10.45	7	20.06	7	20.18	American	Submarine Boat Corp	324.0	46.2	24.6	Pensacola	San Francisco	General	4,815	3,984	2,612
Salvador	30	16.15	7	11.40	7	20.00	7	21.06	British	Pacific Steam Navigation Co	215.0	35.4	16.0	Cristobal	Champerico	General	966	1,270	735
Gargoyle[1]	7–7	11.55	7	12.15	7	19.01	7	23.30	American	Vacuum Oil Co	425.0	57.2	19.0	Philadelphia	San Francisco	Lubricating oil	1,700	7,510	4,989
Wiegand	7	12.20	7	12.40	7	20.44	7	21.45	German	Roland Line	392.0	54.2	22.0	Hamburg	Corral	General	4,334	6,573	4,629
Quail[11]	7	7.00	7	11.35	7	19.39			American	U. S. Navy	180.0	35.6		Cristobal	Balboa	Towing barge			

[1] Tanker. [8] Motor ship. [9] Launch. [10] Cable ship. [11] Tug. [12] General, petroleum, and dynamite. [13] Steel rails, sulphate of ammonia, and general. [14] Cable repair parts.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Shreveport[1]	25	3.42	7–1	7.24	7–1	16.00	7–1	21.40	American	Walker & Daly, (S.B.)	435.0	56.0	27.6	Los Angeles	New York	Crude oil	9,926	7,411	5,103
Birkenhead[1]	30	15.15	1	7.47	1	16.30	1	16.30	American	Vacuum Oil Co	425.0	57.2	27.6	Los Angeles	Philadelphia	Crude oil	10,800	7,502	4,982
Huasco	30	17.15	1	8.44	1	17.15	5	10.00	Chilean	Chilean Line	380.0	44.0	21.0	Talcahuano	Cristobal	General	47	4,552	3,182
Jacob Luckenbach	7–1	4.47	1	9.55	1	17.32	1	17.32	American	Luckenbach Line	414.5	53.7	22.6	Seattle	New York	Lumber, general	3,920	7,315	5,270
Garfield	1	5.30	1	11.54	1	18.40	2	13.15	American	Grace Line	299.4	45.0	16.0	Cruz Grande	New York	General	1,103	3,256	2,010

[1] Tanker.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Quail	28	0.16	1	8.34	1	15.12	7	11.35	American	U. S. Navy	189.0	35.6	.....	Balboa	Cristobal	.....	.....	.....	.....
A. C. Bedford [1]	7–1	7.30	2	7.39	2	15.22	2	15.22	American	Standard Oil Co	500.0	68.0	30.0	Los Angeles	Charleston	Crude oil	15,000	10,896	7,688
Mantaro	2	4.30	2	9.02	2	16.30	8	10.18	Peruvian	Peruvian Line	367.3	46.0	19.6	Callao	Cristobal	General	1,461	4,838	2,959
Benarty	2	13.19	2	14.05	2	21.55	3	6.32	British	Ben Line, Ltd	383.0	46.1	23.1	Portland	Cristobal [17]	Wheat	5,350	4,142	3,007
Florence Luckenbach	2	14.10	2	15.00	2	22.20	2	22.20	American	Luckenbach Line	401.8	52.2	20.6	Tacoma	Pt. Arkansas	Lumber	4,105	6,002	4,621
Dorothy Luckenbach	2	19.00	3	7.06	3	14.05	3	14.05	American	Luckenbach Line	448.9	60.2	29.0	Portland	New York	General, lumber	8,500	9,294	6,861
Steel Age	2	19.30	3	7.42	3	15.22	3	15.22	Norwegian	Latin-American Line	395.5	55.0	27.0	Seattle	Boston	(18)	6,989	7,285	5,256
Alameda [25]	30	7.55	3	7.59	3	15.43	3	17.35	American	Standard Oil Co. of N. J	430.0	58.0	26.6	New York	New York	Crude oil	9,714	7,425	5,356
Lydia	3	12.01	3	8.39	3	16.22	3	19.43	American	Susquchana Line	366.0	48.2	22.0	Aberdeen	New York	Lumber	4,990	4,620	3,343
Dorset	3	4.21	3	10.02	3	17.15	4	6.17	British	Federal Steam Navigation Co	460.0	58.2	19.6	Wellington	Glasgow	General, frozen	2,941	9,188	6,581
Hammac [1]	3	5.06	3	10.09	3	17.45	3	17.45	American	General Petroleum Co	435.0	56.2	27.0	San Francisco	Marcus Hook	Gasoline	8,597	7,433	5,058
Minnesotan	3	1.00	3	11.17	3	18.45	3	18.45	American	American-Hawaiian Line	429.0	53.7	20.8	Tacoma	Boston	General	4,000	7,150	4,913
Francis E. Powell	3	8.20	3	12.16	3	20.45	4	9.30	American	Atlantic Refining Co	430.0	59.2	27.0	Los Angeles	Havre, Rouen	Gasoline	9,280	9,860	5,032
Mystic	3	10.10	3	12.32	3	21.02	3	21.02	American	American-Hawaiian Line	400.7	54.2	15.0	Los Angeles	New Orleans	General	900	6,623	4,625
Foldenfjord [1]	3	6.00	3	13.56	3	22.15	3	22.15	Norwegian	General Petroleum Co	430.4	59.3	24.6	Los Angeles	Southampton	Gasoline	8,656	7,780	5,520
Takaoka Maru	4	7.10	4	8.48	4	15.20	4	15.20	Japanese	Nippon Yusen Kaisha	445.0	58.0	21.2	Yokohama	New York	General	7,119	7,579	5,507
Pennsylvania Sun [1]	4	5.00	4	10.35	4	17.43	4	17.43	American	Sun Oil Co	480.5	66.0	29.0	Los Angeles	Philadelphia	Gasoline	12,750	9,325	6,383
F. Q. Barstow [1]	4	10.45	4	11.30	4	19.20	4	19.20	American	Standard Oil Co	500.0	68.2	29.6	Los Angeles	New York	Crude oil	14,749	10,530	7,604
J. A. Moffett, Jr. [1]	4	17.58	5	7.44	5	15.33	5	15.33	American	Standard Oil Co	499.1	68.0	30.0	Los Angeles	New York	Crude oil	15,000	11,037	7,995
Aladdin [1]	4	23.00	5	8.39	5	16.55	5	16.55	American	Standard Transport Co	435.6	56.2	26.3	Los Angeles	New York	Crude oil (bulk)	9,371	7,408	5,068
Ebro	5	1.30	5	8.46	5	16.15	6	6.15	British	Pacific Steam Navigation Co	450.3	57.8	24.2	Valparaiso	New York	(19)	3,099	9,151	6,227
Breda	5	1.00	5	9.42	5	17.35	6	21.15	Dutch	Royal Netherlands W. I. Mail	402.6	58.3	26.6	Valparaiso	Amsterdam	Nitrates, general	8,300	7,384	5,226
Byron D. Benson [1]	4	23.00	5	9.43	5	18.08	5	18.08	American	Tidewater Oil Co	465.4	60.2	26.6	Los Angeles	New York	Crude oil (bulk)	12,000	8,546	6,095
Toco [1]	5	6.00	5	10.56	5	19.15	5	20.40	British	Chile Steamship Co., Ltd	440.8	56.1	17.3	Antofagasta	Tampico	Ballast	.....	7,693	4,831
Guardian	5	10.30	5	11.54	5	20.40	6	8.10	American	All America Cable Co	278.4	36.0	15.1	Callao	Cristobal	Cable repairs	.....	1,860	950
Red Bird	5	9.00	5	13.42	5	20.47	5	20.47	American	Munson Line	324.0	46.2	21.0	Port Ludlow	Nuevitas	Lumber	3,178	3,965	2,573
Manavi	2	9.20	2	10.52	2	17.35	8	8.00	British	Pacific Steam Navigation Co	216.0	35.1	14.2	Guayaquil	Cristobal	General	706	1,357	884
Patuxent	.....	.....	5	10.09	5	16.49	.....	.....	American	U. S. Navy	.....	.....	.....	Balboa	Cristobal	.....	.....	.....	.....
Bethore	6	3.45	6	6.42	6	17.00	6	17.00	American	Ore Steamship Co	550.3	72.2	33.1	Cruz Grande	New York	Iron ore	20,000	15,476	4,354
Grant [16]	3	14.35	6	8.10	6	15.47	6	15.47	American	U. S. Government	505.0	50.0	25.0	San Francisco	New York	Miscellaneous	597	.....	.....
W. S. Rheem [1]	5	17.20	6	8.27	6	18.12	6	18.12	American	Standard Oil Co. of N. J	500.0	68.2	30.0	Los Angeles	Charleston	Crude oil	14,200	11,224	7,860
Indiana	6	4.00	6	9.39	6	18.20	7	0.30	French	French Line	435.0	56.0	26.0	Vancouver	Bordeaux	General	7,942	7,157	4,936
Anglo-Mexican	6	7.30	6	9.58	6	19.03	6	20.25	British	Nitrate Producers	394.5	52.4	26.0	Iquique	Alexandria	Nitrates	7,500	6,163	4,452

[1] Tanker. [25] Tanker, transferred cargo from steamship *John D. Archbold* at Balboa anchorage. [16] U. S. Army transport. [17] For orders. [18] Lumber, general, copper. [19] Wool, nitrate, metals, cotton.

Samuel Q. Brown[1]	6	6.30	6	11.10	6	21.25	6	21.25	American	Tidewater Oil Co	424.4	58.2	26.0	Los Angeles	New York	Crude oil	10,200	7,333	5,246
No. 2569[20]			6	11.10	6				Panaman	C. A. Preciado				Balboa	Gatun Lake				
Sicania	6	15.40	7	6.53	7	16.12			Italian	Italian Line	338.9	46.2	19.6	Valparaiso	Genoa	(23)	745	4,500	3,523
Cedar Branch	6	22.30	7	7.52	7	15.58	7	16.50	British	F. & W. Ritson	390.5	51.0	20.6	Punta Arenas	Liverpool	Nitrate, general	4,992	4,927	3,597
Nitokris	7	6.00	7	8.48	7	17.05	7	21.50	German	Kosmos Line	429.0	50.6	24.0	Valparaiso	Antwerp	General	5,795	6,652	4,704
S. M. Spalding[1]	7	1.05	7	9.03	7	17.15	7	19.00	American	Huasteca Petroleum Co	435.0	56.0	27.4	Los Angeles	New Orleans	Crude oil	10,817	7,331	5,080
Eastern Planet	7	2.45	7	10.15	7	17.50	7	23.15	American	U. S. & Australia Lines	384.8	51.2	16.6	Adelaide	Boston	(24)	745	6,235	4,480
Eurana[1]	7	4.25	7	10.19	7	19.00	7	19.00	American	Inter. Merchant Marine Co	419.5	56.5	27.0	Los Angeles	New York	Crude oil	9,600	6,989	4,976
James B. Duke	7	7.00	7	10.53	7	20.07	7	20.07	American	Garland Steamship Corp	385.0	51.2	25.1	Grays' H'bor	New York	Lumber, copper	6,605	6,242	4,471
Apple Branch	7	11.35	7	12.27	7	21.45	8	5.45	British	F. & W. Ritson	370.0	51.7	24.0	Tocopilla	Liverpool[22]	(25)	5,840	5,112	3,511
Dean Emery[1]	7	12.25	7	13.13	7	23.32	7	23.32	American	Pan-American Petroleum Co	429.3	59.2	28.0	Los Angeles	New Orleans	Crude oil	11,000	7,709	5,517
J. A. Bostick[21]	6	19.41	7	14.15	7	22.15			American	Standard Oil Co. of N. J	465.2	60.0	20.0	Balboa	Cristobal	Gasoline	900	8,518	6,423

[1] Tanker. [20] Cayuca. [21] Came south on July 6, 1923. [22] For orders. [23] Copper, nitrate soda, ivory nuts. [24] Wool, hides, general. [25] Nitrate, sugar, and cotton.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
July 1	Atenas	United Fruit Co	New Orleans via Habana.	July 1	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
July 1	Calamares	United Fruit Co	Port Limon.	July 1	Calamares	United Fruit Co	New York via Habana.
July 1	Adalia	Hamburg-American Line	Port Limon.	July 1	Denver	U. S. Navy	Cartagena.
July 1	La Navarre	French Line	St. Nazaire via wayports.	July 3	Adalia	Hamburg-American Line	Cartagena.
July 3	Pastores	United Fruit Co	New York via Habana.	July 4	Pastores	United Fruit Co	Port Limon.
July 3	San Gil	United Fruit Co	Boston via Habana.	July 4	La Navarre	French Line	St. Nazaire via wayports.
July 4	Heredia	United Fruit Co	New Orleans via Habana.	July 4	Atenas	United Fruit Co	New Orleans via wayports.
July 4	Sixaola	United Fruit Co	New York via Kingston.	July 5	Sixaola	United Fruit Co	Colombian ports.
July 4	Panama	Panama Railroad Steamship Line	New York via Haiti.	July 5	Heredia	United Fruit Co	New Orleans via wayports.
July 6	La Belle Sauvage[26]	Lindsay Swan Hunter	Kingston.	July 5	San Gil	United Fruit Co	Boston via Limon.
July 6	Dorelian	Leyland Line	Liverpool via wayports.	July 7	Camito	Elders & Fyffes Line	Bristol via Kingston.
July 7	Camito	Elders & Fyffes Line	Port Limon.				

[26] Tug.

PORT OF BALBOA.

July 2	Sinaloa	Latin-American Line	San Francisco.	July 4	Sinaloa	Latin-American Line	Guayaquil.
July 1	John D. Archbold	Standard Oil Co. of N. J	Los Angeles.	July 5	Anomia	Anglo-Saxon Petroleum Co	Los Angeles.
July 5	Anomia	Anglo-Saxon Petroleum Co	Port Angeles.				

* Other than ships passing through the Canal.

Commercial Traffic Through the Panama Canal in June, 1923, by Trade Routes.

ATLANTIC TO PACIFIC.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
United States intercoastal:							
United States	105	472,458	579,163	747,862	473,597	$467,885.10	280,370
From east coast of United States to west coast of South America:							
United States	9	27,337	34,209	47,461	27,296	29,985.25	16,663
British	6	16,350	19,642	25,983	16,158	19,480.03	11,075
Japanese	4	16,859	19,542	24,894	16,565	16,141.57	705
Chilean	1	3,512	4,705	7,310	3,976	4,390.00	1,897
Danish	1	2,256	3,468	5,718	2,307	2,496.96	.....
Norwegian	1	2,024	2,268	3,124	1,868	2,530.00	2,014
Totals	22	68,338	83,834	114,490	68,170	75,023.81	32,354
From east coast of United States to Far East:							
United States	7	31,826	41,578	49,417	31,732	39,782.50	58,687
Japanese	5	19,219	22,664	29,669	18,995	24,023.75	31,950
British	4	15,518	20,688	22,660	14,433	19,210.50	29,078
French	1	4,605	5,641	7,369	4,561	5,756.25	8,232
Totals	17	71,168	90,571	109,115	69,721	88,773.00	127,917
From Europe to west coast of South America:							
British	5	17,541	21,712	26,935	16,861	21,926.25	17,031
Dutch	3	13,585	17,629	21,790	13,620	12,962.42	3,336
German	3	11,236	13,729	14,247	8,228	13,967.55	8,115
Italian	1	2,705	3,774	4,676	2,636	3,381.25	708
Spanish	1	4,120	5,518	7,578	4,402	5,150.00	261
United States	1	4,472	6,457	7,035	4,390	4,649.04	.....
Totals	14	53,659	68,819	82,261	50,137	62,036.51	29,451
From Europe to west coast of United States:							
Norwegian	4	17,540	20,195	26,802	17,300	17,379.80	15,875
British	3	14,560	18,858	23,650	14,740	16,392.83	7,009
United States	2	12,140	14,002	18,044	12,190	10,252.11	.....
French	2	6,907	8,021	11,000	6,515	5,775.12	.....
Dutch	1	5,776	7,551	9,399	5,814	7,220.00	8,503
German	1	5,474	5,495	6,121	3,772	6,594.00	4,192
Totals	13	62,397	74,122	95,016	60,331	63,613.86	35,579
From Europe to Australasia:							
British	7	38,060	45,521	58,763	38,091	47,442.50	44,960
French	1	4,308	4,983	6,888	4,427	5,385.00	1,316
Totals	8	42,368	50,504	65,651	42,518	52,827.50	46,276
From Cristobal, C. Z., to west coast of South America:							
Peruvian	3	3,699	7,742	12,452	6,277	4,623.75	853
British	3	675	1,028	1,263	815	843.75	379
Chilean	2	3,260	5,645	6,367	3,888	4,075.00	1,417
Totals	8	7,634	14,415	20,082	10,980	9,542.50	2,649
From east coast of United States to Australasia:							
British	5	21,669	25,280	32,300	20,339	26,804.75	27,542
United States	1	4,309	4,944	6,848	4,280	5,386.25	9,000
Totals	6	25,978	30,224	39,148	24,619	32,191.00	36,542
From Europe to west coast of Canada:							
British	4	7,667	10,533	12,462	7,692	9,563.25	13,931
French	1	3,289	4,934	5,293	3,252	4,111.25	957
United States	1	5,128	5,209	7,157	5,217	6,250.80	9,412
Totals	6	16,084	20,676	24,912	16,161	19,925.30	24,300
From east coast of Canada to west coast of South America:							
British	4	15,882	18,455	26,971	16,808	13,287.60	.....
From east coast of Mexico to west coast of United States:							
British	2	6,808	7,606	11,205	6,734	5,476.32	.....
Norwegian	1	4,418	5,043	6,987	4,422	3,630.96	.....
Totals	3	11,226	12,649	18,192	11,156	9,107.28	.....
From Cristobal, C. Z., to west coast of United States:							
United States	3	7,722	9,272	12,564	7,722	7,925.16	3,341

ATLANTIC TO PACIFIC—Continued.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From Cristobal, C. Z., to west coast of Central America:							
British	3	2,143	2,459	3,746	2,194	$2,678.75	2,167
Foreign vessels in ballast between United States coastwise ports:							
British	1	9,616	11,102	15,371	9,326	7,993.44	.....
Norwegian	1	4,589	5,062	5,765	4,263	3,644.64	.....
Totals	2	14,205	16,164	21,136	13,589	11,638.08	.....
From east coast of Mexico to west coast of South America:							
British	2	8,578	9,554	14,672	8,545	10,722.50	19,351
From West Indies to west coast of South America:							
British	2	6,684	7,469	11,261	6,563	5,377.68	.....
From east coast of South America to west coast of South America:							
Peruvian	1	1,483	1,529	1,866	1,169	1,853.75	994
Colombian	1	334	335	864	614	417.50	559
Totals	2	1,817	1,864	2,730	1,783	2,271.25	1,553
From West Indies to west coast of United States:							
United States	1	4,506	5,197	7,367	4,504	3,741.84	.....
From east coast of Canada to Australasia:							
British	1	3,528	4,070	5,758	3,549	4,410.00	3,500
From east coast of United States to west coast of Canada:							
United States	1	3,465	5,450	5,687	3,450	4,331.25	8,370
From Europe to west coast of Mexico:							
German	1	1,846	3,072	3,161	1,832	2,307.50	1,400
From east coast of Mexico to west coast of Mexico:							
British	1	704	835	1,408	725	880.00	869
From Cristobal, C. Z., to Gatun Lake:							
Panaman	1	2,163	2,459	3,404	2,163	1,770.48	.....
From Bermuda to west coast of United States:							
British[1]	1	.....	.....	.....	.....	2,320.00	.....
Totals, June, 1923	227	904,553	1,111,297	1,436,594	900,817	954,587.95	655,989
Totals, June, 1922	135	476,105	594,196	752,082	479,291	571,161.36	586,377
Totals, June, 1921	103	336,515	415,302	520,884	331,420	416,543.07	359,584

[1] Cruiser.

PACIFIC TO ATLANTIC.

United States intercoastal:							
United States	90	415,399	505,059	650,490	418,839	$516,642.90	877,286
From west coast of South America to east coast of United States:							
British	7	25,626	29,734	40,308	24,712	31,708.55	44,351
United States	5	15,466	18,720	26,096	15,464	19,272.65	33,517
Danish	2	5,553	5,668	6,380	3,919	6,801.60	9,936
Norwegian	2	3,589	5,260	5,776	3,598	4,486.25	8,710
Chilean	1	3,479	4,672	7,289	3,886	4,348.75	3,037
Totals	17	53,713	64,054	85,849	51,579	66,617.80	99,551
From west coast of United States to east coast of Mexico:							
British	7	39,840	45,145	63,516	39,410	49,800.00	81,964
Norwegian	2	8,740	9,983	14,065	8,833	10,925.00	19,448
United States	2	8,716	9,641	12,398	7,627	10,752.25	18,003
Totals	11	57,296	64,769	89,979	55,870	71,477.25	119,415
From west coast of United States to Europe:							
British	6	23,271	26,800	38,378	22,553	29,088.75	48,292
Norwegian	1	4,434	5,095	7,020	4,420	5,542.50	8,300
United States	1	4,061	4,343	5,605	3,430	5,076.25	7,553
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,401
Totals	9	34,019	40,257	54,748	33,261	42,523.75	69,546
From west coast of South America to Europe:							
British	4	17,511	21,936	29,420	17,624	21,888.75	19,675
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	8,175
German	1	2,957	3,486	4,750	2,969	3,696.25	5,108
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	84
Totals	8	27,984	34,978	46,121	27,818	34,980.00	33,042

PACIFIC TO ATLANTIC—Continued.

Nationality.	No. of ships.	TONNAGE. United States equivalent.	Panama Canal net.	Registered gross.	Registered net.	Tolls.	Tons of cargo.
From west coast of South America to Cristobal, C. Z.:							
Peruvian	3	3,699	7,742	12,352	5,391	$4,623.75	4,970
British	3	675	1,028	1,263	815	843.75	340
Chilean	2	3,260	5,645	6,171	3,888	4,075.00	4,912
Totals	8	7,634	14,415	19,886	10,094	9,542.50	10,222
From west coast of Canada to east coast of United States:							
United States	6	21,984	29,419	35,923	22,941	27,480.00	37,419
Norwegian	1	2,444	3,042	3,856	2,418	3,055.00	5,100
German	1	1,783	2,924	2,990	1,757	2,228.75	3,036
Totals	8	26,211	35,385	42,769	27,116	32,763.75	45,555
From west coast of Canada to Europe:							
British	3	12,371	17,090	19,695	12,322	15,463.75	24,975
French	2	9,149	10,473	12,491	7,767	11,436.25	17,022
Japanese	1	4,359	4,710	5,825	4,227	5,448.75	7,738
United States	1	3,756	4,675	6,032	3,715	4,695.00	9,405
Totals	7	29,635	36,948	44,043	28,031	37,043.75	59,140
From Australasia to Europe:							
British	5	28,104	34,451	43,941	27,836	35,130.00	23,725
Japanese	1	4,365	4,397	5,870	4,260	5,276.40	7,900
Totals	6	32,469	38,848	49,811	32,096	40,406.40	31,625
From west coast of United States to Cristobal, C. Z.:							
United States	4	9,054	10,864	14,717	9,030	11,317.50	12,591
From Far East to east coast of United States:							
United States	2	8,667	10,968	13,650	8,629	10,833.75	18,800
Japanese	2	7,920	10,183	12,786	7,876	9,900.00	11,359
Totals	4	16,587	21,151	26,436	16,505	20,733.75	30,159
From west coast of Central America to Cristobal, C. Z.:							
British	3	2,143	2,459	3,746	2,194	2,678.75	1,649
From Australasia to east coast of United States:							
United States	1	4,445	4,415	5,838	4,493	5,298.00	876
British	1	3,208	4,083	5,244	3,230	4,010.00	1,404
Totals	2	7,653	8,498	11,082	7,723	9,308.00	2,280
From west coast of South America to West Indies:							
British	2	6,742	7,543	11,261	6,563	8,427.50	14,110
From west coast of United States to West Indies:							
United States	2	1,376	1,403	1,582	1,368	1,720.00	2,795
From west coast of South America to east coast of South America:							
Colombian	2	668	670	1,728	1,228	804.00	1,107
From west coast of United States to east coast of Canada:							
British	1	7,632	7,732	10,825	7,443	9,278.40	15,000
From west coast of United States to east coast of South America:							
United States	1	6,195	8,443	10,533	6,195	7,743.75	4,176
From west coast of Canada to east coast of Canada:							
British	1	4,582	4,999	5,704	3,521	5,727.50	8,249
From Australasia to east coast of Canada:							
British	1	4,403	5,494	7,178	4,413	5,503.75	2,500
From west coast South America to east coast of Mexico:							
British	1	4,248	4,723	7,335	4,259	3,400.56	.....
From west coast of Central America to Europe:							
German	1	2,393	3,381	4,015	2,434	2,991.25	459
From west coast of Central America to east coast of United States:							
German	1	1,462	2,532	2,452	1,469	1,823.04	.....
Totals, June, 1923	190	759,498	924,605	1,202,290	759,049	943,455.85	1,440,457
Totals, June, 1922	93	297,693	376,517	475,956	297,119	361,129.06	391,101
Totals, June, 1921	89	277,379	346,175	439,973	279,071	335,421.05	335,136

United States Vessels Through Canal Show Large Increase.

Except in the number of transits, statistics for the fiscal year 1923 show that the traffic through the Canal in vessels of United States registry has more than doubled during the past year. As compared with the fiscal years 1920, 1921, and 1922, figures are as follows:

Fiscal Year.	No. of transits.	Panama Canal net tonnage.	Tolls.	Cargo tonnage.
1920	1,129	3,791,088	$3,805,924.77	4,547,140
1921	1,210	4,861,761	4,784,577.35	5,163,025
1922	1,095	4,971,509	4,867,495.81	4,950,519
1923	1,994	10,208,536	9,473,765.65	11,055,156

While there has been a progressive increase in the United States intercoastal traffic along all lines, the large shipments of California oil passing through the Canal are chiefly responsible for the large increase in American shipping. The greater proportion of the California oil passing through the Canal at the present time is routed to the east coast of the United States and, therefore, can be carried only in vessels of United States registry.

At the close of the fiscal year, vessels of United States registry comprised considerably more than half of the total traffic transiting the Canal.

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs since the last report, dated June 25:

Steamships *Talarolite*, dock and undock; clean and wire-brush hull; paint underwater body; repair sea valves; roll tubes; calk seams in boilers; repair boiler tubes and mountings; repair cargo system piping, and perform miscellaneous minor repairs in all departments of the ship; *Acasta*, manufacture stop valve and seat, complete; *Cape Ann*, perform repairs on main engine (H. P. piston and cylinder); manufacture bull rings and snap rings; manufacture new crosshead and make necessary repairs to feed pump; repair main feed line; *Shreveport*, open up H. P. cylinders; remove piston; bore out cylinder; line up engine and crossheads, and reassemble; make repairs to after deck winch, ballast pump, feed pump, dynamo and galley range; *Alden Anderson*, drill, tap, and electric weld 3 teeth in anchor windlass; make minor repairs to feed pump and oil tank; *Betterton*, minor repairs to lubricating oil pump, sanitary pump, circulating pump, winches, refrigerating system, auxiliary steam and exhaust lines, feed and bilge pipes, boiler mountings, telemotor system, compass; furnish steam for firing up boilers and air for ship's use; open up left main turbine casing for examination; remove rotors to shop; clean journals on rotors; install bearings; remetal and bore spare bearings; check all gears for alignment; close up and assemble turbine; install signal system in lubricating tank; *John D. Archbold*, install shoring on tank top.

PREVIOUSLY REPORTED.

Submarines *O–2*, dock and undock; paint; perform routine docking repairs; *O–7*, dock and undock; paint; perform routine docking repairs; steamship *Colon*, reboilering and general overhauling; barge *No. 131*, dock and undock; paint; perform miscellaneous repairs and alterations.

The following vessels were at the Cristobal shops for repairs during the week ended July 9:

Tugs *Coco Solo*, drydock; stage, clean, scrape, wire brush, and paint bottom and boot topping; *Favorite*, drydock; stage, clean, scrape, wire brush and paint bottom and boot topping; yacht *Gold Star*, sheathe up forecastle for sea voyage; install towing strap and cable; tug *Engineer*, drydock; stage, clean, scrape, wire brush, and paint bottom and boot topping; barge *No. 18*, (Dredging Division), drydock; stage, clean, scale, wire brush and touch up bad spots with red lead; paint bottom and boot topping; overhaul winding gear; make 8 links; straighten 1 shaft; line up

ratchet gears; make 12 U-bolts; renew 6 split links; renew hinges, pins, and 3 links in lifting chains; brush sheaves; test all tanks; repair doors and deck plates; renew and straighten sheathing guard iron; renew fender angles; redrive all loose rivets; repair coaming; renew hopper sheathing; renew strongbacks; renew fenders; clean tanks; launch *Birdena*, electric weld up the edge of stem plating; renew bottom plates and wood guards; replace chafing irons; renew bulwarks; renew deck plates; repair pilot house; stage, scrape, wire brush, and paint bottom and boot topping; lift launch from water to pier and back into water; steamships *Manavi*, repair wier pump; repair water service pipe; repair furnace door; renew boiler tubes; repair stop valve; repair hatch coaming; repair lifeboat; repair plumbing and stove in galley; *Mantaro*, weld cracks in boiler; yacht *Casiana*, repair ice machine; overhaul wood work on motor launch; renew skylight; steamships *La Belle Sauvage*, drydock; stage, scrape, wire brush, paint bottom and boot topping; remove tail shaft and re-wood stern bushing; renew steering gear wires and anneal chains; repair fresh water pumps; electric weld sanitary tank; repair furnace door; repair sea valves; cut away and remove towing pedestal; repair bread tanks; fit keys to 2 doors; *Gen. G. W. Goethals*, *R–27*, *San Juan*, *Breda*, *C. D. Bryant*, *Balboa*, *Arabia*, and *Crynssen*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending July 7, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Gen. W. C. Gorgas	Panama Railroad Steamship Line		July 1		2,791
Essequibo	Pacific Steam Navigation Co		July 1		49
Jan Van Nassau	Royal Netherlands W. I. Mail		July 1		70
Calamares	United Fruit Co	July 1	July 1	6	108
Losada	Pacific Steam Navigation Co	July 1	July 2	20	215
Almelo	Royal Netherlands W. I. Mail	July 1	July 2	80	40
Garfield	Grace Line	July 1	July 2	247	23
Adalia	Hamburg-American Line	July 1	July 3	148	155½
La Navarre	French Line	July 1	July 4	1,391	175½
Atenas	United Fruit Co	July 1	July 4	364	75
Huasco	Chilean Line	July 1	July 5	71	523
Manavi	Pacific Steam Navigation Co	July 2		706	
Mantaro	Peruvian Line	July 3		1,484	
Pastores	United Fruit Co	July 3	July 4	225	291
San Gil	United Fruit Co	July 3	July 5	7	315
Gen. G. W. Goethals	Panama Railroad Steamship Line	July 4	July 6	167	3
Sixaola	United Fruit Co	July 4	July 5	131	162
Heredia	United Fruit Co	July 4	July 5	876	138
Panama	Panama Railroad Steamship Line	July 4		1,956	
Canada	Johnson Line	July 4	July 4	105	(1)
Saint Andre	French Line	July 4	July 5	113	151
Cissy	New Orleans & S. A. S. S. Line	July 4	July 5	30	190
Ebro	Pacific Steam Navigation Co	July 5	July 6	17	541
Breda	Royal Netherlands W. I. Mail	July 5	July 6	133	380
J. A. Bostwick	Standard Oil Co. of N. J	July 5	July 6	900	(1)
Indiana	French Line	July 6	July 6	35	90
Dorelian	Leyland Line	July 6		513	
Camito	Elders & Fyffes, Ltd	July 7	July 7	20	4
Balboa	Compania Costanera Colombiana	July 7		30	
Sicania	Italian Line	July 7		33	
Susquehanna	Swayne & Hoyt	July 7		1	

[1] No cargo laded.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending July 7, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Sinaola	A. O. Lindvig	July 2	July 3	239	
Grant	U. S. Army	July 4	July 6	523	219
Canada	Johnson Line	July 4	July 4	172	
Anomia	Anglo-Saxon Petroleum Co	July 6	July 7	6,758	
Laura C. Hall	Pacific Metals Corp	July 6		4	
Colombia	Pacific Mail Steamship Co	July 7	July 8	32	

American-Hawaiian Line Discontinues Gulf Service.

Announcement has been made by the management of the American-Hawaiian Line of the discontinuance of its Gulf-Pacific Coast Service, which has been operated since last September with steamers chartered from the Shawmut Steamship Company.

Whether the vessels which have been engaged in this trade will be permanently withdrawn or will be operated under other management is not known at the present time. Lack of eastbound cargo in sufficient volume to insure successful operation is given by the American-Hawaiian Line as the reason for withdrawal from this trade.

The 3 vessels which the American-Hawaiian Line operated in this trade are the steamers *Ipswich*, *Mystic*, and *Sudbury*.

Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., July 7, 1923.

The following report was received through the Captain of the Port, Balboa, by the Chief Hydrographer:

Steamship *Indiana* reports passing a derelict 50 meters long and 8 meters wide in Latitude 17° 20′ North, Longitude 102° 30′ West. (Time of passing derelict not given.)

JAY J. MORROW,
Governor.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective July 12, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.24
Metal, yellow	Lb.	.25
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.35
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in drums	Gal.	.61
Oil, engine, gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in drums	Gal.	.475
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, kerosene, in drums	Gal.	.20
Oil, marine engine	Gal.	.60
Paint, lead, white, dry	Lb.	.14
Paint, lead, white, in oil	Lb.	.15
Paint, zinc, white, dry	Lb.	.14
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Official Circular.

THE PANAMA CANAL,
MARINE DIVISION,
BALBOA HEIGHTS, C. Z., July 7, 1923.

To all concerned—Effective this date and during absence on leave of Capt. F. Kariger, Mr. George Cartwright will be in charge of Lighthouse Subdivision, Marine Division.

A. W. HINDS,
Marine Superintendent.

Sale of House No. 1955 at Frijoles, C. Z.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m., July 23, 1923, and then opened for the purchase of a 1-story, 3-room frame building known as House No. 1955, located at Frijoles. Form of proposal and conditions may be had on application to the Purchase and Sales Bureau, Balboa Heights. The Panama Canal reserves the right to reject any or all bids.

Panama Railroad Steamship Line.

Following are proposed sailings of passenger vessels of the Panama Railroad Steamship Line:

Steamer.	Leave New York.	Leave Port au Prince.	Arrive Cristobal.	Leave Cristobal.	Leave Port au Prince.	Arrive New York.
Gen. W. C. Gorgas	July 14	July 20	July 23	July 29	Aug. 1	Aug. 6.
Panama	July 25	July 30	Aug. 12	Aug. 9	Aug. 12	Aug. 16.
Cristobal[1]	Aug. 4	Aug. 9	Aug. 12	Aug. 19	Aug. 22	Aug. 26.
Gen. W. C. Gorgas	Aug. 15	Aug. 21	Aug. 24	Aug. 29	Sept. 1	Sept. 6.
Panama	Aug. 25	Aug. 30	Sept. 2	Sept. 9	Sept. 12	Sept. 16.

Steamers sail at 3 p. m. from Pier 67, North River, foot of West 27th St., New York.
[1] Sails 3 p. m. from Pier 65, North River, foot of west 25th Street.
(Daylight saving time.)

WEST COAST SERVICE.

In addition, a regular freight service is maintained direct to Buenaventura and Ecuadorian ports by the steamships *General O. H. Ernst* and the *General G. W. Goethals*, and other steamers.

Schedule of Official Jitney Service.

Following is the schedule of the official jitney plying between Balboa shops and the Ancon police station, carrying employees in the conduct of official business, upon presentation of passes issued by the Chief Quartermaster or of the "special pass" issued by the Governor:

FROM ANCON POLICE STATION TO BALBOA SHOPS.

Police Station	Leave on the hour and half hour.
Administration Building	Leave 7 minutes and 37 minutes after the hour.
Balboa Commissary	Leave 10 minutes and 40 minutes after the hour.
Balboa shops	Arrive 15 minutes and 45 minutes after the hour.

FROM BALBOA SHOPS TO ANCON POLICE STATION.

Balboa shops	Leave 15 minutes and 45 minutes after the hour.
Port Captain's Office	Leave 18 minutes and 45 minutes after the hour.
Balboa Commissary	Leave 20 minutes and 50 minutes after the hour.
Administration Building	Leave 25 minutes and 55 minutes after the hour.
Ancon Police Station	Arrive on the hour and half hour.

Schedule of the Ancon-Balboa Bus Line.

Leave Ancon clubhouse at 3.45 p. m., and every 30 minutes thereafter until 10.45 p. m.

Leave Balboa at 3.30 p. m., and every 30 minutes thereafter until 11 p. m.

Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.35 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.50 to $1.65 per barrel at Cristobal, and $1.45 to $1.75 at Balboa; Diesel oil, Balboa only, $2.00 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

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Tolls for First Half of July Average $71,438.30 Per Day.

All previous records for number of commercial transits and revenue from tolls for 15-day period were exceeded during the first 15 days of July, when a total of 237 commercial vessels transited the Canal, with payment of tolls amounting to $1,071,574.65.

The average daily number of commercial transits was 15.8 vessels per day, and the average daily tolls $71,438.30 per day. At this rate, the monthly totals would be 489 transits and $2,214,587.30 in tolls.

During the calendar year to date, the average daily number of transits and tolls have been as follows:

Month.	Daily average.	
	No. of transits.	Tolls.
January	11.35	$48,557.60
February	11.64	50,855.51
March	13.20	58,958.66
April	13.47	62,631.27
May	13.52	63,619.87
June	13.90	63,268.13
July (first 15 days only)	15.80	71,438.30

In addition to the commercial traffic passing through the Canal during the first 15 days of July as listed above, 5 nonseagoing launches also made the transit, paying tolls of $8.25.

The record month in number of transits and amount of tolls to date is May, 1923, when 419 commercial vessels transited the Canal on which tolls of $1,972,216.04 were paid.

Sixty Vessels with 10,000 Tons or More of Cargo Transit Canal During June.

Sixty vessels, carrying 10,000 tons or more of cargo each, transited the Panama Canal during the month of June, 1923. Of these, 56 were bound from the Pacific to the Atlantic and 4 from the Atlantic to the Pacific. Of the total, 53 were tankships with cargoes of mineral oils, of which all but 1 were transiting the Canal from the Pacific to the Atlantic. With 1 exception, all of the Pacific-to-Atlantic bound tankers carried cargoes from the Californian fields.

The statement below shows the net tonnage, Panama Canal measurement; the tolls paid; and the tons of cargo carried by these 60 vessels, segregated by the several commodities which made up their cargo.

Character of cargo.	No. of ships.	Aggregate net tonnage.	Aggregate tolls.	Aggregate cargo.
Mineral oils	53	342,722	$358,366.70	664,405
General cargo	6	41,405	40,282.50	63,077
Iron ore	1	4,297	5,156.40	20,000
Totals	60	388,424	403,805.60	747,482
Average per vessel		6,474	6,730.09	12,458

Three of the 6 ships shown above as carrying general cargo were motor ships.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 14, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Susquehanna	7	14.25	8	6.23	8	14.26	8	15.35	American	Swayne & Hoyt (S. B.)	500.8	58.5	26.8	Buenos Aires	Seattle	General	4,712	11,064	7,526
Montana	7	16.42	8	7.00	8	15.33	8	22.00	American	Atlantic Transport Line	431.0	56.3	25.8	Baltimore	Seattle	General	8,000	8,696	6,315
San Juan	6-30	21.45	8	8.00	8	16.16	8	19.25	American	Pacific Mail Steamship Co	283.0	37.0	18.4	Cristobal	San Francisco	General	1,288	2,379	1,593
Manavi	2	17.35	8	8.00	8	17.00	8	20.55	British	Pacific Steam Navigation Co	216.0	35.0	12.1	Cristobal	Guayaquil	General	270	1,357	884
Hilario R. Malpica [2]	2	13.10	8	10.10	8	18.59	8	20.35	Mexican	Mexican Government	114.0	29.0	13.0	Charleston	Guayamas	Ballast		368	192
Tuxpanoil [1]	8	0.30	8	8.55	8	18.04	8	22.22	American	McAllister Bros. (S. B.)	431.0	59.2	16.0	New York	San Pedro	Ballast		7,862	4,979
Richeoncal [1]	8	2.10	8	9.14	8	18.49	8	20.07	American	Beacon Oil Co	435.0	56.0	17.5	Boston	San Pedro	Ballast		7,481	5,119
Atlantic Sun [2]	8	2.30	8	10.00	8	19.37	9	2.04	American	Sun Oil Co	429.3	59.2	16.0	Chester	San Pedro	Ballast		7,568	5,350
Mantaro	2	16.30	8	10.18	8	20.32	9	3.25	Peruvian	Peruvian Line	360.3	46.0	17.6	Cristobal	Callao	General	296	4,838	2,959
Clausens	8	12.35	8	12.50	8	21.22	9	5.17	American	Planet Line	409.8	54.2	24.0	New York	Seattle	General	7,495	6,581	4,741
Denver [3]	8	9.05	8	13.25	8	23.00	....	.....	American	U. S. Navy	308.9	44.0	17.0	Cartagena	Balboa	Ballast			
Gulfpoint [1]	8	13.22	8	13.35	8	22.01	8	23.13	American	Gulf Refining Co	435.6	56.2	18.0	Port Arthur	Los Angeles	Ballast		7,426	5,094
Gulfstate [1]	8	15.32	9	6.05	9	13.22	9	14.30	American	Gulf Refining Co	435.0	56.0	20.0	Port Arthur	Los Angeles	Ballast		7,643	5,319
Armagh	8	6.40	9	6.45	9	14.59	9	16.09	British	Union S. S. Co. of N. Z.	530.5	63.5	31.4	London	Auckland	General	8,334	12,857	8,669
Commercial Traveler	8	17.30	9	7.30	9	16.05	9	17.15	American	Moore & McCormack	380.3	53.1	24.5	New York	Los Angeles	General	6,000	5,657	4,247
E. T. Bedford [4]	8	19.00	9	7.25	9	15.17	9	16.20	American	Standard Oil Co	499.2	68.1	17.6	New York	San Pedro	Ballast		11,009	7,967
Lillian Luckenbach	9	1.25	9	8.55	9	16.37	9	17.32	American	Luckenbach Line	448.9	60.2	30.0	Mobile	Seattle	General	9,300	9,294	6,865
J. C. Donnell [1]	9	6.28	9	9.35	9	17.45	9	18.50	American	Atlantic Refining Co	500.0	68.2	22.0	Philadelphia	San Pedro	Ballast		10,435	7,900
Tiberton	9	6.47	9	9.37	9	18.30	9	20.20	British	R. Chapman & Sons	400.1	52.4	17.0	Baltimore	San Francisco	Ballast		5,699	4,126
W. M. Irish [1]	8	22.04	9	10.00	9	19.11	10	8.12	American	Atlantic Refining Co	435.0	56.0	17.6	Philadelphia	Balboa	Gasoline	598	7,392	5,453
Northwestern Miller	9	9.25	9	10.40	9	20.10	9	23.45	British	Furness, Withy & Co	419.8	53.4	25.0	Swansea	Vancouver	General	7,500	6,978	5,024
Dryden	9	11.15	9	11.25	9	21.10	11	.30	American	Tampa-Inter. S. S. Co. (S.B.)	434.3	57.7	24.0	Galveston	Yokohama	General	7,278	7,983	5,882
Balboa	7	22.55	9	12.30	9	21.59	9	23.16	Colombian	Compania Costanera Colombiana	190.0	29.1	14.8	Santa Marta	Tumaco	General, salt	520	737	335
Doonholm	9	13.34	9	13.40	9	22.21	10	1.30	British	J. Edgar & Co	385.0	49.8	22.6	Montreal	Sydney	General	6,403	4,885	3,479
Mina Brea [1]	9	8.25	10	6.28	10	13.33	12	12.35	British	Imperial Oil Co	360.3	49.2	18.10	Habaoa	Talara	Ballast		4,437	2,717
Ipswich	9	18.37	10	7.15	10	14.49	10	18.23	American	Shawmut Steamship Co	400.7	54.2	25.0	Charleston	Seattle	General	8,040	6,616	4,611
K. R. Kingsbury [1]	9	20.55	10	7.38	10	15.44	10	16.35	American	Standard Oil Co	440.0	58.2	20.9	New York	Los Angeles	Ballast		9,033	5,938
Poplar Branch	10	2.05	10	9.20	10	16.39	10	17.44	British	F. & W. Ritson	396.0	56.0	16.0	Antwerp	Valparaiso	General	1,612	6,640	5,099
Hallfried [4]	7	12.05	10	10.29	10	17.30	10	23.08	Norwegian	Adolf Andersen	376.3	51.6	25.6	Malmo	Portland	Cement	6,983	5,651	4,114
Ecuador	10	7.25	11	6.20	11	13.00	11	23.37	American	Pacific Mail Steamship Co	380.6	48.7	21.6	New York	San Francisco	General	1,795	5,926	4,178
Clan MacKellar	10	19.25	11	7.10	11	14.28	11	15.30	British	Clan Line, Ltd	410.2	52.0	22.0	New York	Brisbane	General	4,000	6,450	4,698
J. A. Bostwick [1]	7	22.15	11	7.40	11	15.18	12	2.10	American	Standard Oil Co	465.2	60.0	31.0	Cristobal	Balboa	Gasoline	628	8,511	5,981
West Jester	11	4.55	11	8.30	11	15.55	11	21.00	American	Nawsco Line (S. B.)	410.5	54.2	19.0	Philadelphia	Seattle	General	4,500	6,755	4,887

[1] Tanker. [2] Dredge. [3] Cruiser. [4] Motor ship.

Kobenhavn[5]	11	7.45	11	10.20	11	20.55	12	13.40	Danish	East Asiatic Co	384.0	47.8	22.10	Norresund	San Francisco	(9)	4,350	4,028	3,289
Chattanooga City	11	11.00	11	11.15	11	18.43	11	23.04	American	U. S. Steel Products Co	424.2	56.2	26.0	Boston	Honolulu	General	8,472	7,611	5,450
Swiftscout[1]	11	11.40	11	11.45	11	21.15	12	4.00	American	Swiftsure Oil Transport Co	464.0	60.2	19.0	Providence	San Pedro	Ballast		8,473	6,104
Le-ise Maersk[6]	11	18.15	12	6.18	12	13.30	12	18.30	Danish	A. P. Moller	293.5	42.9	19.0	Hamburg	San Pedro	Cement	3,391	3,212	2,166
F. R. Kellogg[1]	11	19.18	12	6.35	12	13.53	12	14.53	American	Pan-American Petroleum Co	425.8	57.0	22.0	New York	Los Angeles	Ballast		7,178	4,963
Luise Nielsen	10	5.12	12	7.28	12	14.22	12	15.20	Norwegian	B. Stolt Nielsen & Co	424.9	54.0	16.0	Dunkirk	San Pedro	Ballast		6,617	4,834
Orita	11	16.55	12	8.05	12	16.41	12	18.05	British	Pacific Steam Navigation Co	485.4	58.2	23.6	Liverpool	Valparaiso	General	3,080	9,936	6,561
Chertsey	11	22.40	12	8.40	12	16.35	12	18.30	British	Watts, Watts & Co	355.1	45.0	24.0	Baltimore	San Antonio	Coal	4,512	4,009	2,948
Surichco	12	7.01	12	9.05	12	16.43	12	18.05	American	Submarine Boat Corp	324.0	46.2	19.5	Newark	Tacoma	General, steel	2,500	3,984	2,612
Santa Barbara	12	2.10	12	9.10	12	17.32	12	23.05	American	Grace Line	404.6	53.0	28.6	Baltimore	Seattle	General	8,395	6,789	4,746
Huguenot[1]	12	5.55	12	10.00	12	18.16	13	7.42	American	McAllister Bros. (S. B.)	434.8	56.2	18.6	New York	San Pedro	Ballast		7,394	5,099
Chickasaw City	12	0.45	12	11.35	12	20.06	12	21.36	American	Isthmian Line	395.5	55.0	26.6	New York	Vancouver	General, steel	7,372	6,841	4,686
Agwimex[1]	12	11.45	12	0.00	12	19.14	13	1.52	American	Atlantic Gulf & W. I. S. S. Co	480.5	66.0	21.0	Boston	San Pedro	Ballast		9,394	6,306
Naringa	11	20.45	12	13.10	12	21.56	12	23.35	British	British India Steam Nav. Co	433.0	57.4	29.0	Liverpool	Auckland	General	10,995	8,893	6,645
Teno	12	3.20	12	13.19	12	20.55	12	22.25	Chilean	Chilean Line	421.8	56.0	24.0	New York	Valparaiso	General	981	7,758	4,672
Bantu	12	16.22	13	6.25	13	15.39	13	17.00	American	U. S. Steel Products Co	360.0	47.0	25.9	Baltimore	San Francisco	(10)	5,077	4,607	3,032
Atlantic Maru	12	16.42	13	7.25	13	16.32	13	22.46	Japanese	Kawasaki Steamship Co	385.0	51.0	13.3	Philadelphia	San Antonio	(11)	1,238	6,251	4,700
Matinicock[1]	12	19.42	13	7.45	13	17.15	13	20.52	American	Standard Oil Co	459.1	60.0	21.6	New York	San Pedro	Ballast		8,171	5,882
J. N. Pew[1]	13	2.35	13	8.43	13	18.07	14	.15	American	Sun Oil Co	480.0	66.0	19.0	Philadelphia	San Pedro	Ballast		9,494	6,612
Thordis	12	16.55	13	11.23	13	20.16	14	3.00	Norwegian	A. S. Thelma	376.2	52.6	12.6	Newport News	San Pedro	Ballast		5,123	3,712
Eurybates	13	12.10	14	6.15	14	13.28	14	14.43	British	Alfred Holt & Co	430.0	50.2	27.0	Boston	Shanghai	General	6,095	6,285	4,492
Talabot	13	16.10	14	7.15	14	14.28	14	20.10	Norwegian	N. S. Bjonness & Sons	410.7	56.2	16.0	Marseillaise	San Francisco	Ballast		8,279	6,328
Canadian Cruiser	14	1.40	14	7.40	14	15.10	15	1.25	British	Canadian Government	445.0	56.0	19.0	Montreal	Auckland	Auto, parts, gen.	3,179	7,680	5,494
Sachsen	14	6.05	14	8.45	14	15.24	14	23.15	German	Hamburg-American Line	464.0	57.7	19.0	Hamburg	Vancouver	General	3,087		
Virginian	14	6.30	14	9.30	14	16.19	14	21.48	American	American-Hawaiian Line	491.5	58.2	27.0	New York	Portland	General	7,000	10,491	7,546
Livingstone Roe[1]	14	6.00	14	9.55	14	17.05	14	18.06	American	Standard Oil Co	462.0	60.0	20.0	New York	San Pedro	Ballast		8,491	6,065
Cherry Branch	14	9.10	14	10.35	14	17.21			British	Nautilus Steamship Co	412.6	51.10	18.6	Liverpool	Valparaiso	General	3,146	5,403	3,967
Capella[7]	12	23.35	14	12.45	14	19.33			American	U. S. Navy	390.0	54.0	21.6	Norfolk	Bremerton	Navy supplies	4,000		
Ministro J. F. Game[8]			14	19.50	15	9.17			Ecuador	G. L. Chanange	85.0	20.0		Cristobal	Balboa	Ballast		116	36

[1] Tanker. [5] Motor bark. [6] Motor ship. [7] Repair ship. [8] Ex supply No. 1. [9] Fire bricks and cement. [10] Tin plates, and steel pipes. [11] Locomotives and coal.

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.

Colombia	7	5.15	8	6.59	8	14.10	9	12.02	American	Pacific Mail Steamship Co	380.0	48.7	23.4	San Francisco	New York	General	3,250	6,014	4,281
Standard Arrow[1]	7	19.20	8	7.52	8	15.55	8	15.55	American	Standard Transportation Co	467.6	62.7	28.9	Los Angeles	Philadelphia	Gasoline	10,500	9,931	7,019
Mobile City	7	19.45	8	8.36	8	17.30	8	17.30	American	Isthmian Line	395.5	55.0	24.8	Tacoma	Philadelphia	General	8,023	7,330	5,241
Epsom	8	6.50	8	9.10	8	17.45	8	20.00	British	Watts, Watts & Co	370.0	50.6	24.0	Antofagasta	Alexandria	Nitrate	6,500	4,945	3,468
Lewis Luckenbach	8	10.20	8	11.07	8	18.10	8	18.10	American	Luckenbach Line	496.0	68.0	27.0	Portland	Boston	Lumber, general	8,335	11,487	8,762
H. M. Flagler[1]	8	12.00	8	12.56	8	19.50	8	22.05	American	Standard Oil Co. of N. J.	461.6	60.0	27.7	San Pedro	New York	Crude oil	11,589	8,450	6,089
Houma[1]	8	7.30	8	13.10	8	21.40	8	21.40	American	McAllister Bros. (S. B.)	434.8	56.2	26.0	San Pedro	New York	Crude oil	10,000	7,425	5,168
Steelore	8	10.50	8	14.50	9	15.45	9	15.45	American	Ore Steamship Corp	550.3	72.2	33.0	Cruz Grande	Baltimore	Iron ore	20,000	15,551	4,297
Santa Elisa	9	6.00	9	8.45	9	16.55	9	20.36	American	Grace Line	360.3	51.7	24.4	Antofagasta	New York	(12)	3,704	5,957	4,325

[1] Tanker. [12] Copper, nitrates, and general.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Acajutla	8	12.40	9	8.46	9	17.00	.....	.....	British	Pacific Steam Navigation Co	215.7	33.5	13.8	Champerico	Cristobal	Coffee, hides, etc	69	1,273	706
Standard [1]	9	9.15	9	11.28	9	21.20	9	21.20	American	Standard Oil Co. of N. J	523.8	68.6	29.1	San Pedro	New York	Crude oil	17,077	12,171	8,673
Santa Paula	9	5.45	9	11.54	9	19.42	9	19.42	American	Pacific Mail Steamship Co	404.6	53.9	28.4	Los Angeles	New York	General, lumber	7,465	6,756	4,775
Steel Seafarer	9	10.00	9	13.53	9	22.00	9	22.00	American	Isthmian Line	424.2	56.2	19.0	Honolulu	Baltimore	Canned goods	2,280	7,611	5,454
Halo [1]	9	19.00	10	6.57	10	14.46	10	14.46	American	Cities Service Transportation Co	435.0	56.0	27.6	San Pedro	Boston	Crude oil	9,500	7,642	5,274
Cerro Ebano [1]	10	1.45	10	7.55	10	15.10	10	15.10	American	Huasteca Petroleum Co	480.5	66.0	29.2	San Pedro	New Orleans	Crude oil	13,500	9,389	6,453
Sabine Sun [1]	9	24.00	10	8.37	10	16.45	10	16.45	American	Sun Oil Co	429.3	59.2	27.1	Los Angeles	New York	Light crude oil	10,600	7,621	5,277
Corvis	10	8.45	10	10.05	10	17.30	10	17.30	American	Argonaut Steamship Corp	410.0	54.2	19.9	Seattle	Baltimore	General, lumber	4,599	6,604	4,655
Montreal Maru	9	22.00	10	12.23	10	20.10	10	20.10	Japanese	K. K. K. Bosinjo	405.0	53.0	28.6	Iquique	Boston	Nitrate of soda	9,250	7,034	5,081
Pennsylvanian	9	22.15	10	12.15	10	18.30	10	18.30	American	American-Hawaiian Line	407.7	53.7	20.0	Los Angeles	Boston	General	3,465	7,107	4,916
Radnor	9	8.15	10	13.25	10	21.25	11	7.14	American	Tampa-Inter. S. S. Co. (S.B.)	434.3	57.7	28.4	Far East	New York	Rice, sugar	9,499	7,993	5,871
Ethan Allen	9	18.05	10	14.40	10	22.23	10	22.23	American	Tampa-Inter. S. S. Co. (S.B.)	439.6	60.0	22.6	Davao, P. I.	New York	General	6,440	8,987	6,534
Quail	.....	.....	11	6.51	11	15.00	16	7.30	American	U. S. Navy	.....	.....	.....	Balboa	Cristobal	.....	.....	.....	.....
Clement Smith [1]	11	9.15	11	10.06	11	18.00	12	1.50	American	Oil Transport Co	431.0	59.2	27.0	San Pedro	Fall River	Crude oil	10,770	8,097	5,349
Durango [1]	11	6.00	11	10.47	11	19.05	11	19.05	American	C. D. Mallory & Co	435.0	56.0	28.8	San Pedro	New York	Crude oil	10,700	7,642	3,468
Nordlys	11	9.45	11	11.13	11	20.10	11	20.10	Danish	Norden Steamship Co	362.0	51.3	24.10	Tocopilla	New Orleans	Nitrate	6,310	4,932	3,468
D. G. Scofield [1]	11	11.15	11	12.05	11	21.27	11	21.27	American	Standard Oil Co. of N. J	439.5	58.0	30.8	San Francisco	New York	Crude oil	11,000	8,698	6,040
Lena Luckenbach	11	12.00	11	13.19	11	22.30	11	22.30	American	Luckenbach Line	425.0	53.8	20.6	Seattle	Mobile	General	2,900	7,217	5,295
Cape Town Maru	11	13.10	12	7.06	12	15.15	12	15.15	Japanese	Hokusai Kisen Kabushiki Kaisha	385.0	51.0	27.4	Saigon	Cienfuegos	Rice	7,800	6,209	4,658
Drechtdijk	11	18.20	12	7.54	12	16.25	12	17.20	Dutch	Holland-American Line	501.0	62.0	29.5	Vancouver	London	Wheat, general	9,887	10,793	7,619
Defender	12	3.20	12	8.58	12	17.35	12	17.35	British	T. & J. Harrison	482.0	58.3	27.6	Vancouver	London	General	10,407	8,844	6,144
Greenwich	11	12.30	12	13.05	12	20.35	12	20.35	British	Watts, Watts & Co	341.1	46.6	23.0	Antofagasta	Gibraltar [13]	Nitrate of soda	5,500	3,974	2,929
F. H. Hillman [1]	12	9.15	12	13.41	12	21.42	12	21.42	American	Standard Oil Co. of N. J	449.5	59.6	27.0	San Francisco	London	Gasoline	1,400	11,225	7,913
Tulsagas [1]	9	17.25	12	14.43	12	23.35	13	2.35	American	McAllister Bros. (S. B.)	431.0	59.2	26.0	San Pedro	Fall River	Crude oil	10,600	7,817	4,961
Ardmore [1]	12	15.15	13	6.58	13	15.10	13	15.10	American	Standard Oil Co. of N. J	449.5	59.6	27.0	San Pedro	New York	Crude petroleum	10,500	8,612	6,457
Blue Triangle	12	20.30	13	7.52	13	15.35	13	15.35	American	N. Atlantic & Western S.S.Co	390.0	54.2	23.0	Los Angeles	New York	General, lumber	5,558	6,209	4,317
Olaf L. Kongstad	12	22.00	13	8.42	13	17.07	13	20.50	Danish	Triton Steamship Co	325.0	47.0	21.3	Pisagua	New Orleans	Nitrate of soda	4,691	3,304	2,339
Saint Joseph	12	23.30	13	8.49	13	17.25	14	13.30	French	French Line	397.9	51.0	23.0	Valparaiso	Liverpool	Nitrate, cotton	6,250	5,979	4,170
Wm. G. Warden [1]	12	24.00	13	9.59	13	18.45	13	18.45	American	Standard Oil Co. of N. J	500.0	68.2	30.2	Los Angeles	New York	Crude oil	15,000	10,524	7,600
Japan Arrow [1]	12	23.50	13	10.13	13	20.06	13	20.06	American	Standard Transportation Co	468.3	62.7	28.0	San Pedro	New York	Crude oil	12,266	10,084	7,426
Rapot	13	3.00	13	10.37	13	21.00	13	21.00	German	Roland Line	408.1	54.1	26.2	Corral	Antwerp	(14)	7,600	6,583	4,660
Julia Luckenbach	13	3.35	13	10.58	13	19.42	13	19.42	American	Luckenbach Line	436.6	57.2	27.0	Portland	New York	General, lumber	6,146	8,543	6,402
William Rockefeller [1]	13	6.00	13	12.07	13	21.22	13	21.22	American	Standard Oil Co. of N. J	554.2	75.3	31.0	San Pedro	New York	Crude oil	19,725	14,785	10,313

[1] Tanker.

[13] For orders.

[14] Nitrates, cocoa and beans

Vixen[2 5]			13	14.22					American	Capt. Chas. W. Seifort	18.0	5.0		Balboa	Miraflores Lake				
Willsolo	13	4.00	13	12.23	13	22.20	13	22.20	American	Williams Steamship Co	434.3	57.0	23.0	Seattle	New York	General	6,000	7,983	5,882
Swiftstar	13	9.00	13	13.46	13	23.35	13	23.55	American	C. D. Mallory & Co	464.6	60.2	28.0	San Pedro	Fall River	Crude oil	11,400	8,473	6,050
Clan MacNair	13	23.00	13	15.00	14	.45	14	0.45	British	Clan Line Steamers	410.7	53.3	26.8	Papeete	Eng. Chan.[16]	([17])	6,700	6,663	4,433
W. E. Hutton[1]	13	15.00	14	7.09	14	14.40	14	14.40	American	Pure Oil Steamship Co	485.0	56.0	28.5	Los Angeles	Philadelphia	Crude petroleum	10,435	7,481	5,120
Bengkalis	13	17.15	14	8.02	14	15.52	14	20.45	Dutch	Nederland Steamship Co	419.8	54.6	25.0	Caleta Colosa	Alexandria	Nitrate	7,404	6,964	5,019
Potosi	14	1.00	14	8.39	14	17.03	14	18.03	British	Pacific Steam Navigation Co	380.8	49.0	20.1	Callao	Liverpool	General	4,326	5,559	4,201
T. J. Williams[1]	14	9.00	14	9.57	14	18.05	14	18.05	American	Standard Oil Co. of N. J	465.0	60.2	27.6	San Pedro	New York	Crude oil	12,191	8,585	6,087
Chester Sun[1]	14	2.00	14	12.05	14	19.45	14	19.45	American	Sun Oil Co	429.3	59.2	26.3	San Pedro	New York	Crude oil	11,200	7,684	5,299

[1] Tanker. [15] Launch. [16] For orders. [17] Copra, chrome, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
July 8	Zacapa	United Fruit Co	New Orleans via Habana.	July 8	Pastores	United Fruit Co	New York via Habana.
July 8	Pastores	United Fruit Co	Port Limon.	July 8	Dorelian	Leyland Line	New Orleans.
July 8	Crynssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.	July 9	La Belle Sauvage	Lindsay, Swan & Hunter	Kingston.
July 10	Ulysses	Panama Railroad Steamship Line	Norfolk.	July 9	Panama	Panama Railroad Steamship Line	New York via Haiti.
July 10	Ulua	United Fruit Co	New York via Habana.	July 9	Zacapa	United Fruit Co	Bocas.
July 10	Contocook[2]	U. S. Navy	Norfolk.	July 10	Crynssen	Royal Netherlands W. I. Mail	Port Limon.
July 10	Rail[3]	U. S. Navy	Norfolk.	July 11	Casiana[6]	E. L. Doheny	Cartagena.
July 11	Parismina	United Fruit Co	New Orleans via Habana.	July 11	San Benito	United Fruit Co	Boston via Habana.
July 11	San Benito	United Fruit Co	Boston via Habana.	July 11	Ulua	United Fruit Co	Port Limon.
July 11	Carrillo	United Fruit Co	New York via Kingston.	July 12	Carrillo	United Fruit Co	Colombian ports.
July 11	Sixoala	United Fruit Co	Colombian ports.	July 12	Sixaola	United Fruit Co	New York via Kingston.
July 12	Zacapa	United Fruit Co	Bocas.	July 12	Parismina	United Fruit Co	New Orleans via wayports.
July 12	Crynssen	Royal Netherlands W. I. Mail	Port Limon.	July 12	Zacapa	United Fruit Co	New Orleans.
July 13	Cristobal	Panama Railroad Steamship Line	New York via Haiti.	July 14	Crynssen	Royal Netherlands W. I. Mail	Amsterdam via wayports.

[2] Tug towing barge. [3] Tug. [6] Yacht.

PORT OF BALBOA.

July 8	Lirio de Agua	Norther Freighter of Vancouver	Corinto.	July 9	Santa Marta	Union Oil Co	Los Angeles.
				July 9	John D. Archbold	Standard Oil Co	Los Angeles.
				July 10	Lirio de Agua	Norther Freighter of Vancouver	Corinto.
				July 11	Betterton	Struthers & Barry	San Luis Obispo.

* Other than ships passing through the Canal.

Traffic of Tank Ships Through the Panama Canal in June, 1923.

The tanker tonnage transiting the Canal from the Atlantic to the Pacific during the month of June, 1923 was 46 per cent of the total traffic through the Canal in that direction; and from the Pacific to the Atlantic the tanker tonnage was 53 per cent of the total. The following statement shows the number of tank ships transiting the Canal, with their aggregate Panama Canal net tonnage, tolls, and cargo, seggregated by nationality of vessels:

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific.				
United States	71	431,016	$316,780.30	28,508
British	12	59,150	46,431.62	19,351
French	2	8,021	5,775.12	.....
Norwegian	3	15,503	11,237.01	.....
Totals	88	513,690	380,224.05	47,859
Pacific to Atlantic.				
United States	63	373,649	392,971.40	726,838
British	19	102,752	111,578.96	179,116
Norwegian	3	15,078	16,467.50	27,748
Totals	85	491,479	521,017.86	933,702

All of the tankers except 1, transiting the Canal from the Pacific to the Atlantic, were laden; while all but 5 of the 88 tankers passing from the Atlantic to the Pacific were in ballast.

The following is a statement of Canal traffic during the month of June, 1923, segregated between tankers and general cargo vessels:

TOTAL TRAFFIC THROUGH PANAMA CANAL, JUNE, 1923.

	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific.				
Tank ships	88	513,690	$380,224.05	47,859
General cargo vessels	139	597,607	574,363.90	608,130
Totals	227	1,111,297	954,587.95	655,989
Pacific to Atlantic.				
Tank ships	85	491,479	521,017.86	933,702
General cargo vessels	105	433,126	422,437.99	506,755
Totals	190	924,605	943,455.85	1,440,457

French Line Adds Steamer to European-Caribbean Service.

The service of the Compagnie Generale Transatlantique (French Line) between European ports and the Caribbean area has received the addition of the steamer *Pellerin de Latouche*, completing her first voyage in this service this month. The vessel is of 8,848 gross tons, with a length of 452 feet, 4 inches; a beam of 56 feet, 3 inches; and a depth of 29 feet, 3 inches. She was built at Trieste in 1913 for the Austrians, but was captured by the French during the World War. Up until the end of the last year she was operated by the French Navy as the *General Gallieni*, but in January of this year she was purchased by the Compagnie Generale Transatlantique and completely overhauled. The reconditioned vessel has accommodations for 201 first-class, 38 second-class, 53 third-class, and 280 emigrant passengers.

Iron Ore Shipments from South America During 1923.

Iron ore shipments from the west coast of South America to the east coast of the United States showed a large increase during the fiscal year 1923 over those of the preceding year. Total shipments for the year aggregated 538,804 tons, as compared with a total of 31,631 tons for the fiscal year 1922.

In the past fiscal year April showed the highest shipments for any month, with a total of 64,500 tons, the average for the entire year being slightly under 45,000 tons. The bulk of these shipments originate at Cruz Grande, Chile, with the destination divided between Baltimore and New York.

Nitrate Traffic.

Shipments of nitrate through the Panama Canal totaled 1,664,751 tons for the fiscal year ending June 30, 1923, or an average of 138,729 tons per month. The quantity in the preceding fiscal year was 470,776 tons.

The peak for the year was reached during March, 1923, when 222,086 tons of nitrate passed through the Canal. In the following month, nitrate shipments aggregated 197,983 tons, and then sharply declined to a total of 66,618 tons during May and 40,416 tons for June, 1923.

Shipments for June were the lowest of any month during the fiscal year but exceeded the aggregate shipments for June, 1922, when the total was 24,043 tons.

From the Pacific Coast to Chicago via Panama Canal.

The steamship *Valdez*, which passed through the Canal on June 30, bound from Gray's Harbor, Washington, to New York, with 1,500,000 feet of lumber, is cited in press reports from the United States as having continued to Chicago and thus having been the first ship to carry a cargo direct from the Pacific coast to that city. The *Valdez* is of approximately 2,300 gross tons, 244 feet in length by 43 feet beam, and her draft at time of transit through the Canal was 18 feet 6 inches.

In THE PANAMA CANAL RECORD of August 18, 1920, note was made of the transit of the steamship *Iroquois*, bound from Seattle to Chicago. The *Iroquois*, however, was in ballast.

Panama Pacific Line to Place Three Passenger Liners in United States Intercoastal Trade.

The International Mercantile Marine Company has advised The Panama Canal that it will resume sailings of the Panama Pacific Line, in United States intercoastal service, in the autumn of this year, using at the beginning the *Finland*, *Kroonland*, and *Manchuria*. The 2 ships first named were used in this service, beginning in May, 1915, and continuing until the slides in Gaillard Cut caused the suspension of navigation, on September 18, 1915, which lasted until April, 15, 1916. During this closure the vessels were transferred to the trans-Atlantic trade. The *Manchuria* will be an addition to the previous service, and is a larger vessel than the others. The *Finland* and the *Kroonland* are 560 feet in length by 60.2 feet beam, with registered gross tonnages of 12,222 and 12,241, respectively. The *Manchuria* has a length of 600 feet, beam of 65.3 feet, and registered gross tonnage of 13,639 tons.

First, second and third class passenger accommodations will be provided.

With the resumption of the Panama Pacific Line, 2 regular intercoastal services will be available for passengers, as the Pacific Mail Steamship Company has been carrying passengers over this route for several years. The 11 other intercoastal lines are cargo services, and do not carry passengers regularly. There are, however, 6 lines which carry passengers between the Atlantic coast of the United States and the Canal ports, and 7 which carry passengers between the Isthmus and Pacific ports of the United States.

Cable Rates.

The All America Cables, Incorporated, has announced the following reduced rates (per word), between Panama and the points named, effective July 1: Denmark, 65 cents; Esthonia, 76 cents; Finland, 69 cents; Latvia, 74 cents; Spitzbergen, 75 cents; Sweden, 66 cents.

Cable Connections with Puntarenas, Costa Rica.

The All America Cables, Incorporated, opened an office in Puntarenas, Costa Rica, on July 8. The rate per word from the Canal Zone stations is 15 cents, the same as to San Jose and Port Limon.

At present messages are transmitted via Port Limon and San Jose, overland to Puntarenas. It is expected that in approximately a month direct cable connections on the Pacific side will be established between Balboa and Puntarenas.

Notice to Mariners.—Aids to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., July 12, 1923.

Cape Mala light characteristics said to be now: 6 seconds flash, eclipse 25 seconds. Characteristics will be corrected about September 1, 1923. Position 7° 27′ 30″ N., 79° 59′ 30″ W.

JAY J. MORROW,
Governor.

Invitation for Proposals to Furnish Calculating Machine.

Sealed proposals will be received at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m., Saturday, July 21, 1923, and then opened, for furnishing, delivered free of all charges, to the office of the Captain of the Port, Cristobal, C. Z., 1 Calculating Machine, equal to Monroe, having Standard Flexible Adding Machine Keyboard, crank at the right of the keyboard for operating, and carriage at top of machine holding dials showing results and proofs of the operations as performed. Bids must be enclosed in sealed envelope marked "Proposals for Furnishing Calculating Machine, to be opened July 21, 1923." Proposals must be accompanied by certified check on bank acceptable to The Panama Canal, or by postoffice money order, payable to the Collector of The Panama Canal, in an amount not less than 10 per cent of the total amount of the bid. This deposit will be returned to unsuccessful bidders after bids have been opened, but the deposit of the successful bidder will be retained as a guarantee for the faithful performance of the contract, and will be considered forfeited in case of failure to comply with all provisions of the same. Immediate delivery is required. The Panama Canal reserves the right to reject any or all bids.

End Lock Binders.

A supply of 100 "Miller End Lock Binders," with key, size 5 inches by 8 inches, is available for official issue, free of charge.

Any division interested can secure same from Storekeeper, Supply Department, Administration Building, Balboa Heights.

Sale of House No. 1955 at Frijoles, C. Z.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m., July 23, 1923, and then opened for the purchase of a 1-story, 3-room frame building known as House No. 1955, located at Frijoles. Form of proposal and conditions may be had on application to the Purchase and Sales Bureau, Balboa Heights. The Panama Canal reserves the right to reject any or all bids.

Ships' Chandlery Supplies.

Panama Canal storehouses stock a complete line of ships' chandlery supplies available for sale to shipping at cost prices plus 25 per cent surcharge, which surcharge includes freight, handling, and other costs.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, $1.50 per year; foreign, $2.00; address The Panama Canal Record, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., July 25, 1923. No. 50.

Six Ships Pay $47,642.45 in Tolls.

Six ships which made up the commercial traffic from Pacific to Atlantic through the Canal on July 20 paid a total of $47,642.45 in tolls, averaging $7,940.41 per ship.

For the 15-day period from July 1 to 15 inclusive, a new high record of average daily tolls for a 15-day period was established at $71,438.30. The receipts from the 6 ships were, accordingly, well above the normal for a day's traffic in one direction, although the usual traffic is about 8 ships each way. The vessels making this record of large tolls in proportion to numbers were the *G. Garrison Smith*, $12,020.00; *Ionic*, $9,521.25; *Agwistone*, $9,031.20; *Edgar F. Luckenbach*, $6,335.00; *Cape Cod*, $5,413.75; and *Argon*, $5,321.25.

Tonnage Routed to Los Angeles.

During the month of June more than half of the total number of vessels transiting the Canal from the Atlantic to the Pacific were routed to Los Angeles, either as a port of call or as their ultimate destination for discharging or loading cargo.

The primary factor in so large a proportion of traffic being routed to this port is the great number of mineral oil shipments originating there at the present time. In addition to the large mineral oil traffic, most of the general cargo steamers engaged in the North Pacific trade call at Los Angeles to load and unload cargo, with the result that more than 60 per cent of the aggregate net tonnage, Panama Canal measurement, of all vessels transiting the Canal en route from the Atlantic to the Pacific was destined for this port.

The following summary gives the number and tonnage of all vessels passing from the Atlantic to Pacific during June, and the number routed to Los Angeles, segregated between tanker tonnage and general cargo tonnage:

	WESTBOUND TRAFFIC THROUGH CANAL.			
	Total.		Routed to Los Angeles.	
	No. of vessels.	Net tonnage.	No. of vessels.	Net tonnage.
Tank ships	88	513,690	73	438,812
General cargo vessels	139	597,607	48	241,799
Total westbound traffic	227	1,111,297	121	680,611

Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone, or "The Panama Cana Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal stations should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

CANAL WORK IN JUNE.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of June, 1923:

BALBOA HEIGHTS, C. Z., July 20, 1923.

The Honorable, the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of The Panama Canal for the month of June, which closes the fiscal year period ending June 30, 1923.

CANAL TRAFFIC FOR FISCAL YEAR.

The growth of the traffic through the Canal during the fiscal year which has just ended has been steady and was marked by an almost uninterrupted succession of record months. During the fiscal year 1923 there were 3,967 commercial vessels transiting the Canal, as compared with 2,736 vessels during the fiscal year 1922, which is an increase of 45 per cent.

The Panama Canal net tonnage of the vessels transiting the Canal during the fiscal year 1923 was 18,605,786 tons, as compared with 11,417,459 tons for the fiscal year 1922, or an increase of 63 per cent.

The tolls collected from the 3,967 vessels during the fiscal year 1923 amounted to $17,508,199.57, as compared with $11,197,832.41 collected from the 2,736 vessels during the fiscal year 1922, or an increase in tolls of 56 per cent.

The vessels which transited the Canal during the fiscal year 1923 carried 19,567,875 tons of cargo, as compared with 10,884,910 tons of cargo transiting the Canal during the fiscal year 1922, or an increase in cargo tonnage of 79 per cent.

The following tabulation shows the number of vessels, Panama Canal net tonnage, tolls, and tons of cargo carried by vessels transiting the Canal each month during the fiscal years 1922 and 1923:

	No. of ships.		Panama Canal net tonnage.		Cargo tonnage.		Tolls.	
	Fiscal year.		Fiscal year.		Fiscal year.		Fiscal year.	
	1922.	1923.	1922.	1923.	1922.	1923.	1922.	1923.
July	206	251	810,613	1,127,871	708,982	1,211,100	$804,503.11	$1,094,127.42
August	236	257	965,276	1,084,133	839,273	1,165,950	955,380.78	1,055,336.75
September	221	240	925,137	1,070,410	754,894	1,138,188	892,001.54	1,020,064.55
October	255	294	1,069,554	1,310,392	985,775	1,445,863	1,047,935.62	1,255,508.00
November	222	294	942,411	1,337,280	855,440	1,426,860	923,048.70	1,264,436.54
December	239	304	1,017,244	1,375,263	953,053	1,535,102	1,003,598.27	1,312,570.12
January	210	352	846,516	1,610,692	807,298	1,591,932	847,767.55	1,505,285.55
February	212	326	886,535	1,529,547	838,074	1,563,278	866,266.18	1,423,954.21
March	234	409	975,811	1,988,192	960,089	1,940,928	956,726.76	1,827,718.44
April	230	404	974,833	2,007,690	1,046,047	2,187,145	953,256.11	1,878,938.15
May	243	419	1,032,816	2,128,414	1,158,507	2,265,083	1,015,057.37	1,972,216.04
June	228	417	970,713	2,035,902	977,478	2,096,446	932,290.42	1,898,043.80
Totals	2,736	3,967	11,417,459	18,605,786	10,884,910	19,567,875	11,197,832.41	17,508,199.57

CANAL TRAFFIC IN JUNE, 1923.—NUMBER OF TRANSITS.

The number of transits through the Canal in June, 1923, was 417 commercial, 31 noncommercial oceangoing vessels, and 7 launches, a total of 455. The average daily number of commercial transits was 13.90, as compared with 13.52 in May and 13.47 in April, 1923.

The total number of vessels and craft of all kinds transiting the Canal during the month of June, 1923, as compared with June, 1922, and June, 1921, is shown in the following table:

	June, 1923.	June, 1922.	June, 1921.
Commercial vessels	417	228	192
Noncommercial vessels (Army and Navy)	31	24	33
Launches, etc., (under 10 tons measurement)	7	4	3
Total vessels and craft through Canal	455	256	228

In addition to the vessels listed above, Panama Canal equipment consisting of dredges, tugs, barges, launches, etc., was passed through the locks as follows:

	North-bound.	South-bound.	Total.
Gatun	7	7	14
Pedro Miguel	15	15	30
Miraflores	14	15	29

The following is a summary of commercial traffic in June, 1923, as compared with June, 1922, and June, 1921, and the average month's traffic for the fiscal year 1923:

	June, 1923.	June, 1922.	June, 1921.	Average per month for fiscal year 1923.
Number of vessels	417	228	192	331
U. S. equivalent tonnage	1,664,051	773,798	613,894	1,247,208
Panama Canal net tonnage	2,035,902	970,713	761,477	1,550,482
Registered gross tonnage	2,638,884	1,228,038	960,857	1,969,412
Registered net tonnage	1,659,866	776,410	610,491	1,240,808
Tolls	$1,898,043.80	$932,290.42	$751,964.12	$1,459,016.63
Tons of cargo carried	2,096,446	977,478	694,720	1,630,656

The average daily number of transits, tonnage, tolls, and cargo are shown in the following statement in comparative form:

	Average per day.			Average per day for fiscal year 1923.
	June, 1923.	June, 1922.	June, 1921.	
Number of transits	13.9	7.6	6.4	10.87
Panama Canal net tonnage	67,863	32,357	25,382	50,975
Tolls	$63,268.13	$31,076.35	$25,965.47	$47,967.67
Tons of cargo carried	69,881	32,583	23,157	53,611

From the foregoing it will be seen that the traffic in June, 1923, as compared with June, 1922, increased as follows: Number of commercial transits, 83 per cent; Panama Canal net tonnage, 109 per cent; tolls, 104 per cent; and cargo, 114 per cent.

AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO PER VESSEL.

The average tonnage, tolls, and cargo per vessel transiting the Canal during the month of June, 1923, as compared with June, 1922, and June, 1921, are shown in the following tabulation:

	Average per vessel.		
	June, 1923.	June, 1922.	June, 1921.
United States equivalent net tonnage	3,990	3,394	3,197
Panama Canal net tonnage	4,882	4,257	3,965
Registered gross tonnage	6,328	5,386	5,004
Registered net tonnage	3,980	3,405	3,180
Tolls	$4,551.66	$4,089.99	$3,703.95
Tons of cargo (including vessels in ballast)	5,027	4,287	3,618
Tons of cargo (laden vessels only)	6,592	4,724	3,970

UNITED STATES INTERCOASTAL TRAFFIC.

The following statement, giving a summary of the intercoastal traffic through the Canal for the month of June for the past 4 years, indicates the great increase in traffic over this route:

Month.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.
June, 1920	8	24,217	27,930	7	25,754	30,574
June, 1921	17	96,199	68,809	11	53,986	57,234
June, 1922	34	161,981	181,651	25	121,156	113,692
June, 1923	105	579,163	280,370	90	505,059	877,286

UNITED STATES SHIPPING BOARD VESSELS.

Twenty-six vessels of the United States Shipping Board transited the Canal during the month of June, 1923; of these, 13 were employed in the United States intercoastal trade. Twelve of the 26 vessels were tankers and 14 were general cargo carriers.

The following table shows the number, aggregate Panama Canal net tonnage and cargo tonnage of United States Shipping Board vessels transiting the Canal during the month of June for the past 3 years:

Month.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.	No. of vessels.	Panama Canal net tonnage.	Cargo tonnage.
June, 1921	17	86,361	65,945	11	49,370	59,696
June, 1922	9	44,694	50,219	4	18,833	16,230
June, 1923	16	81,434	52,651	10	54,540	73,896

ORIGIN AND DESTINATION OF TONNAGE.

The following statement shows the origin and destination of all tonnage passing through the Canal during the month of June, 1923, by principal geographical area, as compared with June, 1922, and June, 1921; the figures represent the net tonnage of vessels as determined by the Panama Canal rules of measurement:

	June, 1923.	June, 1922.	June, 1921.
Origin, Pacific-bound tonnage.			
East coast of United States	805,406	367,338	250,806
Europe (including British Isles)	217,193	159,506	79,129
East coast of Mexico	23,038	22,949	37,401
Cristobal, C. Z.	28,605	18,182	28,920
East coast of South America	1,864	11,890	6,947
Miscellaneous	35,191	.....	.....
Totals	1,111,297	594,196	415,302
Destination, Pacific-bound tonnage.			
West coast of United States	696,567	197,065	143,217
West coast of South America	204,410	158,597	106,369
Australasia	84,798	86,551	46,298
Far East	90,571	99,806	83,063
Canada, west coast	26,126	34,556	24,003
West coast of Mexico and Central America	8,825	17,621	12,352
Totals	1,111,297	594,196	415,302
Origin, Atlantic-bound tonnage.			
West coast of United States	638,527	160,229	116,521
West coast of South America	126,383	110,603	112,474
Australasia	52,840	9,982	75,400
Far East	21,151	16,857	18,740
Canada, west coast	77,332	61,433	13,998
West coast of Mexico and Central America	8,372	17,413	9,042
Totals	924,605	376,517	346,175
Destination, Atlantic-bound tonnage.			
East coast of United States	636,679	215,947	136,292
Europe (including British Isles)	154,412	111,440	155,147
East coast of Mexico	69,492	16,301	18,324
Cristobal, C. Z.	27,738	27,306	26,112
East coast of South America	9,113	4,901	6,001
Miscellaneous	27,171	622	4,299
Totals	924,605	376,517	346,175

TOLLS.

Under the present dual method of assessing tolls, the revenue from this source during the month of June, 1923, was $1,898,043.80. Had the net tonnage as determined by the Panama Canal rules of measurement been used exclusively throughout as a basis for collecting tolls, the revenue from tolls would have been increased by $302,266.76, distributed by nationality of vessels as follows:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	$30,587.85	$31,668.15	$62,256.00
Chilean	3,983.80	3,956.65	7,940.45
Colombian	8.50	.....	8.50
Dutch	3,680.30	1,297.40	4,977.70
French	3,455.50	1,131.35	4,586.85
German	3,886.15	3,178.55	7,064.70
Italian	1,147.55	.....	1,147.55
Japanese	3,737.40	2,522.85	6,260.25
Norwegian	2,025.00	4,647.25	6,672.25
Peruvian	4,755.70	4,666.65	9,422.35
Spanish	1,471.60	774.80	2,246.40
Swedish	.....	2,006.55	2,006.55
United States	65,165.66	122,511.55	187,677.21
Totals	123,905.01	178,361.75	302,266.76

The additional revenue that would have been assessed against vessels of United States registry would have been made up with respect to channels of trade in which the vessels were engaged, as follows:

Trade routes.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	$43,428.66	$99,356.70	$142,785.36
United States—foreign trade	19,792.30	20,442.55	40,234.85
United States—Canal Zone trade	847.80	1,719.30	2,567.10
United States—Hawaii trade	1,096.90	.....	1,096.90
Foreign trade	.....	993.00	993.00
Totals	65,165.66	122,511.55	187,677.21

Of the additional $302,266.76 tolls that would have been assessed by using exclusively the Panama Canal rules of measurement, $17,932.80 represents the portion that would have been assessed on account of deck cargo.

RATIO OF CARGO TONNAGE TO NET TONNAGE.

The ratio of cargo tonnage to net tonnage, Panama Canal measurement, of vessels transiting the Canal in June, 1923, is shown in the following table, segregated by nationality of vessels; laden cargo vessels only are included:

Nationality.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
British	1.05	1.37	1.23
Chilean	.32	.77	.54
Colombian	1.67	1.65	1.66
Danish	.....	1.75	1.75
Dutch	.66	1.40	1.13
French	.67	1.62	1.05
German	.61	.88	.69
Italian	.19	.....	.19
Japanese	1.19	1.39	1.25
Norwegian	1.49	1.78	1.68
Peruvian	.20	.64	.40
Spanish	.05	.02	.04
Swedish	.....	1.34	1.34
United States	1.36	1.68	1.58
Average ratio, June, 1923	1.15	1.57	1.40
Average ratio, June, 1922	1.09	1.13	1.10
Average ratio, June, 1921	.91	1.06	.97

The ratio of cargo tonnage to Panama Canal net tonnage by the leading trade routes is shown in the following tabulation, vessels in ballast being included:

Route.	Atlantic to Pacific.	Pacific to Atlantic.	Total.
United States intercoastal trade	.48	1.34	1.07
United States and South America	.39	1.55	.89
United States and Europe	.45	1.73	.90
United States and Far East	1.41	1.42	1.42
Europe and South America	.43	.97	.60
Europe and Australasia	.91	.84	.87
Europe and Canada	1.17	1.60	1.45
Cristobal, C. Z., and South America	.18	.67	.25
United States and Australasia	1.21	.27	1.00
United States and Canada	1.53	1.28	1.32

COMMODITY STATISTICS.

The cargo moving through the Canal during the month of June, 1923, totaled 2,096,446 long tons. This was more than double the total amount of cargo passing through the Canal in June, 1922, which was 977,478 tons. There were 655,989 tons passing from Atlantic to Pacific ports, as compared with 586,377 tons in June, 1922; and 1,440,457 tons of cargo passing from Pacific to Atlantic ports during the month, as compared with 391,101 tons in June, 1922, which is an increase in the Pacific-to-Atlantic cargo tonnage of approximately 268 per cent. Mineral oils made up approximately 65 per cent of the total cargo passing from the Pacific to the Atlantic, with a total of 934,707 tons, as compared with 48,659 tons in June, 1922. Lumber passing through the Canal from Pacific to Atlantic ports in June, 1923, amounted to 170,216 tons, as compared with 82,727 tons in June, 1922.

The following commodity statistics are compiled from cargo declarations and manifests submitted by masters of vessels at the time of transit, and while incomplete, are indicative of the kind and quantity of commodities carried by vessels transiting the Canal. A brief summary of the principal items is indicated below, the figures representing tons of 2,240 pounds:

Commodity.	June, 1923.	June, 1922.	June, 1921.
Atlantic to Pacific.			
Manufactured goods			
Iron and steel	160,375	134,947	60,923
Railroad material	15,051	19,730	3,434
Machinery	17,831	4,904	7,030
Textiles and miscellaneous	14,331	32,168	3,134
Mineral oils			
Crude petroleum	27,607	49,362	98,099
Lubricating oil	14,468	3,451	.....
Refined	48,929	44,387	30,598
Metals, various	28,246	27,633	3,333
Ammonia	9,976	660	.....
Automobiles	4,710	2,682	118
Chemicals	6,185	1,772	193
Coal and coke	11,297	37,080	15,455
Cement	18,389	1,904	5,394
Cotton	8,373	4,893	11,997
Creosote	9,412	.....	.....
Paper	6,944	2,333	751
Sulphur	19,237	11,450	11,700
Other and general	234,628	207,021	107,426
Totals	655,989	586,377	359,585
Pacific to Atlantic.			
Mineral oils			
Crude petroleum	869,091	13,451	2
Lubricating oil	14,339	11,300	.....
Refined	51,277	23,908	7,248
Beans and peas	7,820	5,407	3,519
Canned goods, various	23,709	15,686	10,662
Coffee	7,036	7,587	11,084
Copra	6,316	761	750
Cold storage	12,905	4,314	34,625
Lumber	170,216	82,727	31,402
Metals, various	42,634	21,487	11,090
Nitrates	40,416	24,043	58,801
Ores, various	40,407	14,958	8,530
Phosphates	7,900	.....	.....
Rice	6,162	2,046	6,436
Sugar	11,044	15,505	10,821
Wheat	33,436	41,285	58,261
Wool	10,002	8,051	4,623
Other and general	85,746	98,585	77,282
Totals	1,440,457	391,101	335,136

TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of June, 1923, was published in THE PANAMA CANAL RECORD of July 11, 1923.

The following tabulations show the number of vessels, Panama Canal net tonnage and tons of cargo moving over the principal trade routes during the month of June, 1923, as compared with the same month in the years 1922 and 1921:

Route.	Atlantic to Pacific.			Pacific to Atlantic.		
	Number of vessels.			Number of vessels.		
	June, 1923.	June, 1922.	June, 1921.	June, 1923.	June, 1922.	June, 1921.
United States intercoastal trade	105	34	17	90	25	11
United States and South America	22	14	10	17	12	14
Europe and South America	14	14	8	8	8	9
United States and Far East	17	19	15	4	3	4
Europe and United States	13	5	5	9	6	12
Europe and Canada	6	5	1	7	7	.....
Europe and Australasia	8	7	2	6	1	10
United States and Australasia	6	7	5	2	1	1
Mexico and South America	2	4	3	1	2	2
Cristobal, C. Z., and South America	8	9	15	3	11	14
United States and Canada	1	1	2	8	4	2
Miscellaneous	25	16	18	35	13	10
Totals	227	135	103	190	93	89
	Panama Canal net tonnage.			Panama Canal net tonnage.		
United States intercoastal trade	579,163	161,981	96,199	505,059	121,156	53,986
United States and South America	83,834	57,326	31,436	64,054	43,627	51,040
Europe and South America	68,819	58,517	33,678	34,978	35,784	27,603
United States and Far East	90,571	95,705	78,774	21,151	16,857	18,420
Europe and United States	74,122	27,867	26,138	40,257	29,803	56,768
Europe and Canada	20,676	26,188	4,899	36,948	37,952	.....
Europe and Australasia	50,504	44,934	14,414	38,848	6,581	70,456
United States and Australasia	30,224	37,525	31,884	8,498	3,401	4,944
Mexico and South America	9,554	17,638	14,704	4,723	10,990	10,132
Cristobal, C. Z., and South America	14,415	14,285	25,929	2,459	19,580	21,872
United States and Canada	5,450	4,225	3,655	35,385	23,481	7,902
Miscellaneous	83,965	48,005	41,400	132,245	27,305	23,052
Totals	1,111,297	594,196	415,302	924,605	376,517	346,175
	Tons of cargo carried.			Tons of cargo carried.		
United States intercoastal trade	280,370	181,651	68,809	877,286	113,692	57,234
United States and South America	32,354	36,136	25,545	99,531	59,551	56,081
Europe and South America	29,451	47,963	15,985	33,042	32,594	37,491
United States and Far East	127,917	140,962	88,567	30,159	19,936	17,584
Europe and United States	33,579	8,404	15,545	69,546	49,541	89,641
Europe and Canada	24,300	23,809	2,398	59,140	55,579	.....
Europe and Australasia	46,276	29,357	4,418	31,625	5,440	40,130
United States and Australasia	36,542	37,177	33,538	2,280	4,500	5,344
Mexico and South America	19,351	32,888	27,712	.....	.....	.....
Cristobal, C. Z., and South America	2,649	2,827	3,818	1,649	8,344	8,921
United States and Canada	8,370	5,500	6,800	45,555	31,208	12,380
Miscellaneous	14,830	39,703	46,449	190,624	10,736	10,330
Totals	655,989	586,377	359,584	1,440,457	391,101	335,136

LATIN-AMERICAN TRAFFIC.

Tonnage moving southbound through the Canal to Latin-American ports shows an increase over the month of June for the 2 preceding years; the cargo tonnage, however, shows a notable decrease, amounting to 93,135 tons in June, 1923, as compared with 156,996 tons in June, 1922, and 129,973 tons in June, 1921. Northbound Latin-American traffic during the month, in point of tonnage, tolls, and cargo, shows a decided increase over the month of June for the 2 preceding years; the cargo tonnage moving northward in June, 1923, amounted to 299,117 tons, as compared with 111,205 tons in June, 1922, and 112,823 tons in June, 1921.

During the past year a peculiar reversal has occurred with regard to mineral oil shipped to and from the east coast of Mexico. During the month of June, 1921, 72,140 tons, and during June, 1922, 42,488 tons of mineral oil were shipped from the east coast of Mexico. During the same 2 months no mineral oil was shipped to the east coast of Mexico. In the month of June, 1923, the situation is reversed, and during that month 20,220 tons of mineral oil were shipped from the east coast of Mexico, and 119,415 tons were shipped to the east coast of Mexico.

Nitrate shipments from Chile continue to show a decrease. During the month of June, 1923, 40,416 tons of nitrates were shipped, as compared with 66,618 tons in May, 1923, and 197,983 tons in April, 1923. For the fiscal year, however, the nitrate shipments were 1,664,757 tons, as compared with 470,796 tons in the preceding fiscal year.

In the tabulation below are shown the tonnage and cargo of all vessels routed to and from Latin-America, segregated by nationality of vessels:

Nationality.	No. of vessels.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	28	75,365	88,750	123,445	75,403	$71,022.88	50,872
Chilean	3	6,772	10,350	13,677	7,864	8,465.00	3,314
Colombian	1	334	335	864	614	417.50	559
Danish	1	2,256	3,468	5,718	2,307	2,496.96	.....
Dutch	3	13,585	17,629	21,790	13,620	12,962.42	3,336
German	4	13,082	16,801	17,408	10,060	16,275.05	9,515
Italian	1	2,705	3,774	4,676	2,636	3,381.25	708
Japanese	4	16,859	19,542	24,894	16,565	16,141.57	705
Norwegian	2	6,442	7,311	10,111	6,290	6,160.96	2,014
Panaman	1	2,163	2,459	3,404	2,163	1,770.48	.....
Peruvian	4	5,182	9,271	14,318	7,446	6,477.50	1,847
Spanish	1	4,120	5,518	7,578	4,402	5,150.00	261
United States	14	44,037	55,135	74,427	43,912	46,301.29	20,004
Totals, June, 1923	67	192,902	240,343	322,310	193,282	197,022.86	93,135
Totals, June, 1922	55	154,609	191,669	254,371	157,465	180,392.04	156,996
Totals, June, 1921	53	117,044	149,446	190,457	117,636	142,071.96	129,973
Pacific to Atlantic.							
British	27	96,785	112,568	156,849	95,577	118,747.86	162,089
Chilean	3	6,739	10,317	13,460	7,774	8,423.75	7,949
Colombian	2	668	670	1,728	1,228	804.00	1,107
Danish	2	5,553	5,668	6,380	3,919	6,801.60	9,936
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	8,175
German	3	6,812	9,399	11,217	6,872	8,510.54	5,567
Norwegian	4	12,329	15,243	19,841	12,431	15,411.25	28,158
Peruvian	3	3,699	7,742	12,452	5,391	4,623.75	4,970
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	84
United States	14	40,807	49,071	65,326	39,684	50,806.15	71,082
Totals, June, 1923	61	180,908	220,234	299,204	180,101	223,523.90	299,117
Totals, June, 1922	44	108,899	136,359	173,747	111,210	127,476.11	111,205
Totals, June, 1921	48	101,952	133,379	173,595	103,412	117,073.95	112,822

TRAFFIC BY NATIONALITY.

Vessels of United States registry made up 59 per cent of the total commercial transits through the Canal during the month, comprised 64 per cent of the Panama Canal net tonnage, and carried 67 per cent of the total cargo in transit through the Canal.

The following statement shows the commercial traffic transiting the Canal during the month of June, 1923, classified according to nationality of vessels:

Nationality.	No. of vessels.	TONNAGE.				Tolls.	Tons of cargo.
		United States equivalent.	Panama Canal net.	Registered.			
				Gross.	Net.		
Atlantic to Pacific.							
British	54	185,983	224,812	294,408	183,573	$214,810.15	176,862
Chilean	3	6,772	10,350	13,677	7,864	8,465.00	3,314
Colombian	1	334	335	864	614	417.50	559
Danish	1	2,256	3,468	5,718	2,307	2,496.96	.....
Dutch	4	19,361	25,180	31,189	19,434	20,182.42	11,839
French	5	19,109	23,579	30,550	18,755	21,027.62	10,505
German	5	18,556	22,296	23,529	13,832	22,869.05	13,707
Italian	1	2,705	3,774	4,676	2,636	3,381.25	708
Japanese	9	36,078	42,206	54,563	35,560	40,165.32	32,655
Norwegian	7	28,571	32,568	42,678	27,853	27,185.40	17,889
Panaman	1	2,163	2,459	3,404	2,163	1,770.48	.....
Peruvian	4	5,182	9,271	14,318	7,446	6,477.50	1,847

Nationality.	No. of vessels.	TONNAGE. United States equivalent.	Panama Canal net.	Registered. Gross.	Registered. Net.	Tolls.	Tons of cargo.
Atlantic to Pacific—Continued.							
Spanish	1	4,120	5,518	7,578	4,402	$5,150.00	261
United States	131	573,363	705,481	909,442	574,378	580,189.30	385,343
Totals, June, 1923	227	904,553	1,111,297	1,436,594	900,817	954,587.95	655,989
Totals, June, 1922	135	476,105	594,196	752,082	479,291	571,161.36	586,377
Totals, June, 1921	103	336,515	415,302	520,884	331,420	416,543.07	359,584
Pacific to Atlantic.							
British	45	180,356	213,217	287,814	176,895	222,950.01	286,234
Chilean	3	6,739	10,317	13,460	7,774	8,423.75	7,949
Colombian	2	668	670	1,728	1,228	804.00	1,107
Danish	2	5,553	5,668	6,380	3,919	6,801.60	9,936
Dutch	2	4,556	5,827	7,311	4,504	5,695.00	8,175
French	2	9,149	10,473	12,491	7,767	11,436.25	17,022
German	4	8,595	12,323	14,207	8,629	10,739.29	8,603
Japanese	4	16,644	19,290	24,481	16,363	20,625.15	26,997
Norwegian	6	19,207	23,380	30,717	19,269	24,008.75	41,558
Peruvian	3	3,699	7,742	12,452	5,391	4,623.75	4,970
Spanish	1	2,960	3,729	4,640	2,721	3,700.00	84
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,401
United States	115	499,119	607,950	782,864	501,731	620,832.05	1,022,421
Totals, June, 1923	190	759,498	924,605	1,202,290	759,049	943,455.85	1,440,457
Totals, June, 1922	93	297,693	376,517	475,956	297,119	361,129.06	391,101
Totals, June, 1921	89	277,379	346,175	439,973	279,071	335,421.05	335,136
Combined traffic.							
British	99	366,339	438,029	582,222	360,468	437,760.16	463,096
Chilean	6	13,511	20,667	27,137	15,638	16,888.75	11,263
Colombian	3	1,002	1,005	2,592	1,842	1,221.50	1,666
Danish	3	7,809	9,136	12,098	6,226	9,298.56	9,936
Dutch	6	23,917	31,007	38,500	23,938	25,877.42	20,014
French	7	28,258	34,052	43,041	26,522	32,463.87	27,527
German	9	27,151	34,619	37,736	22,461	33,608.34	22,310
Italian	1	2,705	3,774	4,676	2,636	3,381.25	708
Japanese	13	52,722	61,496	79,044	51,923	60,790.47	59,652
Norwegian	13	47,778	55,948	73,395	47,122	51,194.15	59,447
Panaman	1	2,163	2,459	3,404	2,163	1,770.48	.....
Peruvian	7	8,881	17,013	26,770	12,837	11,101.25	6,817
Spanish	2	7,080	9,247	12,218	7,123	8,850.00	345
Swedish	1	2,253	4,019	3,745	2,858	2,816.25	5,401
United States	246	1,072,482	1,313,431	1,692,306	1,076,109	1,201,021.35	1,408,264
Totals, June, 1923	417	1,664,051	2,035,902	2,638,884	1,659,866	1,898,043.80	2,096,446
Totals, June, 1922	228	773,798	970,713	1,228,038	776,410	932,290.42	977,478
Totals, June, 1921	192	613,894	761,477	960,857	610,491	751,964.12	674,720

VESSELS WITHOUT CARGO.

The number of ships transiting the Canal in ballast is shown in the following statement, the vessels being grouped according to flag:

Class and Nationality.	Atlantic to Pacific. No. of ships.	Atlantic to Pacific. Panama Canal net tonnage.	Atlantic to Pacific. Tolls.	Pacific to Atlantic. No. of ships.	Pacific to Atlantic. Panama Canal net tonnage.	Pacific to Atlantic. Tolls.
Tank ships:						
British	10	49,596	$35,709.12	1	4,723	$3,400.56
French	2	8,021	5,775.12	.....	.....	.....
Norwegian	3	15,503	11,237.01	.....	.....	.....
United States	68	413,522	298,782.00	.....	.....	.....
General cargo ships:						
British	3	6,389	5,647.13	.....	.....	.....
Danish	1	3,468	2,496.96	.....	.....	.....
Dutch	2	13,236	9,529.92	.....	.....	.....
German	.....	.....	.....	1	2,532	1,823.04
Japanese	3	14,806	10,660.32	.....	.....	.....
Norwegian	1	5,062	3,644.64	.....	.....	.....
Panaman	1	2,459	1,770.48	.....	.....	.....
United States	2	8,651	6,279.00	.....	.....	.....
British cruiser	1	(1)	2,320.00	.....	.....	.....
Totals	97	540,713	393,851.70	2	7,255	5,223.60

[1] British cruiser of 4,640 tons displacement.

CLASSIFICATION OF VESSELS.

A further classification of commercial traffic through the Canal during the month of June, 1923, by kind of vessels, is shown below:

Class.	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Panama Canal net tonnage.	Tolls.	No. of ships.	Panama Canal net tonnage.	Tolls.
Tank ships:						
Laden	5	27,048	$28,720.80	84	486,756	$517,617.30
Ballast	83	486,642	351,503.25	1	4,723	3,400.56
General cargo and passenger ships:						
Laden	125	543,536	532,015.45	104	430,594	420,614.95
Ballast	14	54,071	42,348.45	1	2,532	1,823.04
Totals	227	1,111,297	954,587.95	190	924,605	943,455.85
Steamers	215	1,070,567	912,655.95	180	889,918	910,554.60
Motor vessels	7	40,174	38,966.25	6	33,140	31,023.75
Motor schooners	2	144	157.50	2	144	157.50
Sailing vessels	.....	.....	.....	2	1,403	1,720.00
Cruiser	1	(1)	2,320.00	.....	.....	.....
Cable ship	1	393	457.50	.....	.....	.....
Tug	1	19	30.75	.....	.....	.....
Totals	227	1,111,297	954,587.95	190	924,605	943,455.85

[1] British cruiser of 4,640 tons displacement.

NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of June, 1923. If tolls had been assessed against these vessels at commercial rates, the amount of tolls would have been approximately as indicated:

	Atlantic to Pacific.			Pacific to Atlantic.		
	No. of ships.	Tonnage.	Tolls.	No. of ships.	Tonnage.	Tolls.
U. S. Naval vessels:						
Battleship	1	[1] 32,600	$16,300.00	.....	.....	.....
Cruiser	.....	.....	.....	1	[1] 4,400	$2,200.00
Submarines	9	[1] 4,445	2,222.50	9	[1] 4,405	2,202.50
Supply ships	2	[2] 8,417	10,100.40	.....	.....	.....
Transports	2	[2] 9,204	11,044.80	1	[3] 3,908	4,689.60
Tugs	2	[1] 1,750	875.00	2	[1] 1,750	875.00
U. S. Army vessels:						
Transports	2	[2] 6,043	7,159.92	.....	.....	.....
Totals	18	[1] 38,795 [2] 23,664	47,702.62	13	[1] 10,555 [3] 3,908	9,967.10

[1] Displacement tonnage. [2] Panama Canal net tonnage. [3] Registered net tonnage.

The foregoing noncommercial vessels transiting the Canal free of tolls carried cargo as follows:

	Tons.
Atlantic to Pacific	18,930
Pacific to Atlantic	470
Total	19,400

The following statement shows the number of launches transiting the Canal during the month; these launches, although paying tolls, are excluded from the statements of commercial traffic:

	Number.	Tonnage.	Tolls.
Atlantic to Pacific	6	21	$23.40
Pacific to Atlantic	1	6	7.20
Totals	7	27	30.60

STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of June, 1923, are shown in the following tabulation:

	Cristobal.	Balboa.	Total.
Local cargo arriving....tons..	51,177	38,953	90,130
Local cargo shipped....tons..	7,773	1,091	8,864
Transit cargo arriving....tons..	2,109,423	2,061,854	4,171,277
Transit cargo clearing....tons..	2,499,852	2,041,544	4,541,396
Cargo received for transshipment....tons..	21,699	248	21,947
Cargo transshipped....tons..	23,999	192	24,191
Vessels supplied with bunker coal:			
Army vessels....	2	.....	2
Commercial, other than Panama Railroad....	52	5	57
Panama Railroad vessels....	1	.....	1
Total vessels supplied with coal....	55	5	60
Coal supplied to above vessels:			
Army vessels....tons..	5	.....	5
Commercial, other than Panama Railroad....tons..	11,199	97	11,296
Panama Railroad vessels....tons..	283	.....	283
Total coal supplied to vessels....tons..	11,487	97	11,584
Coal issues, miscellaneous:			
Panama Canal departments....tons..	234	742	976
Panama Railroad....tons..	29	.....	29
U. S. Army, excepting vessels....tons..	335	6	341
Individuals and companies....tons..	176	.....	176
Total coal issued from Panama Canal deposits:			
June, 1923....tons..	12,261	845	13,106
June, 1922....tons..	13,050	3,180	16,230
June, 1921....tons..	21,225	4,306	25,531
Coal on hand, July 1, 1923....tons..	69,594	2,223	71,817
Coal on hand, June 1, 1923....tons..	69,778	3,068	72,846
Coal received during the month....tons..	12,077	.....	12,077
Fuel oil issues from Panama Canal tanks:			
To Panama Canal Departments....bbls..	5,823	18,848	24,671
Panama Railroad Company....bbls..	132	.....	132
Army and Navy....bbls..	508	126	634
Total issues and sales....bbls..	6,463	18,974	25,437
Fuel oil on hand, July 1, 1923....bbls..	77,110	18,638	95,748
Received during the month....bbls..	70,925	30,267	101,192
Fuel oil lost and surveyed....bbls..	.....	38	38
Diesel oil issued during June, 1923....bbls..	.....	34	34
Diesel oil sold during June, 1923....bbls..	27	.....	27
Diesel oil on hand, July 1, 1923....bbls..	43,240	809	44,049
Oil pumped for individuals and companies....bbls..	416,864	675,860	1,092,724
Miscellaneous transfers....bbls..	3,829	702	4,531
Gasoline pumped for individuals and companies....bbls..	.....	1,690	1,690
Gasoline pumped for Panama Canal....bbls..	.....	1,185	1,185
Total fuel oil and gasoline handled....bbls..	498,109	728,712	1,226,821
Admeasurement certificates of vessels:			
U. S. equivalent issued or made....	28	4	32
Measured for Panama Canal net tonnage....	3	2	5
Remeasured for Panama Canal net tonnage....	17	5	22
Panama Canal net tonnage corrected....	25	6	31
U. S. equivalent tonnage corrected....	29	18	47
Services of harbor equipment:			
Tugs, total operating hours....	365	416	781
Launches, total operating hours....	1,274	1,878	3,152
Scows, total operating days....	.....	4.5	4.5
Revenue from tug service, pilotage, etc.:			
Tug service....	$11,139.40	$13,397.50	$24,536.90
Pilotage....	11,786.00	9,364.00	21,150.00
Seamen....	7,688.00	6,584.00	14,272.00
Launch service....	2,050.00	3,609.50	5,659.50
Wharfage....	.....	6,534.74	6,534.74
Ships measured....	130.00	50.00	180.00
Miscellaneous cash collections....	1,351.25	580.50	1,931.75
Vessels repaired at Panama Canal shops:			
Commercial....	26	31	57
U. S. Army and Navy....	3	12	15
Canal equipment....	9	22	31
Vessels drydocked:			
Commercial....	.....	3	3
U. S. Army and Navy....	2	4	6
Canal equipment....	3	.....	3
Clearances issued....	227	242	469
Bills of health issued....	233	242	475

ALL VESSELS ENTERING AND CLEARING PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during the month of June, 1923:

	Port of Cristobal.			Port of Balboa.		
	No. of ships.	Registered gross tonnage.	Registered net tonnage.	No. of ships.	Registered gross tonnage.	Registered net tonnage.
Ships entering.						
All vessels, including those transiting Canal	469	2,986,777	1,893,390	440	2,792,045	1,770,546
Vessels entering the port but not transiting Canal	53	279,120	179,901	13	68,005	40,404
Vessels transiting Canal and handling passengers and cargo at terminals	66	339,525	203,861	47	229,338	130,546
Ships clearing.						
All vessels, including those transiting Canal	460	2,950,752	1,866,934	441	2,783,093	1,767,276
Vessels entering the port but not transiting Canal	50	262,811	165,505	13	72,367	44,786
Vessels transiting Canal and handling passengers and cargo at terminals	66	342,594	206,428	48	232,507	132,408

MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of June, 1923:

	At Cristobal.			At Balboa.		
	First class.	Others.	Total.	First class.	Others.	Total.
Disembarking:						
From Atlantic ports	828	487	1,315	14	4	18
From Pacific ports	154	93	247	88	195	283
Total disembarking	982	580	1,562	102	199	301
Embarking:						
For Atlantic ports	1,089	520	1,609	33	19	52
For Pacific ports	141	118	259	86	175	261
Total embarking	1,230	638	1,868	119	194	313
Remaining on board vessels:						
From Atlantic to Pacific ports	589	1,524	2,113	526	1,577	2,103
From Pacific to Atlantic ports	873	994	1,867	970	1,299	2,269
From Atlantic to Atlantic ports	374	243	617	.....	.....	.....
From Pacific to Pacific ports	.....	.....	.....	15	178	193
Total remaining on board	1,836	2,761	4,597	1,511	3,054	4,565
Total passengers arriving	2,818	3,341	6,159	1,613	3,253	4,866
Total passengers departing	3,066	3,399	6,465	1,530	3,248	4,878

COMMISSARY SALES TO VESSELS.

The following is a statement of commissary sales to all vessels during the month of June, 1923:

	Ice.	Groceries.	Cold storage.	Laundry.	Miscellaneous.	Totals.
Sales at Cristobal to:						
U. S. Government vessels	$142.72	$1,456.51	$3,665.12	.....	$285.62	$5,549.97
Panama Railroad vessels	5.40	135.30	2,481.54	.....	440.56	3,062.80
Other commercial vessels	1,342.25	6,483.50	14,045.24	.....	1,666.74	23,537.73
Total sales, June, 1923	1,490.37	8,075.31	20,191.90	.....	2,392.92	32,150.50
Total sales, June, 1922	1,240.15	4,274.38	38,653.53	355.54	4,085.25	48,608.85
Total sales, June, 1921	3,453.98	5,629.98	30,140.67	5,920.68	1,925.54	47,070.85
Sales at Balboa to:						
U. S. Government vessels	296.55	1,706.24	10,652.18	.....	1,980.29	14,635.26
Panama Railroad vessels	5.40	.....	49.28	.....	.....	54.68
Other commercial vessels	538.50	3,126.06	8,811.76	884.46	4,650.54	18,011.32
Total sales, June, 1923	840.45	4,832.30	19,513.22	884.46	6,630.83	32,701.26
Total sales, June, 1922	361.81	2,913.61	12,244.98	1,454.18	800.44	17,775.02
Total sales, June, 1921	1,065.85	12,944.78	22,756.14	94.09	2,546.57	39,407.43

The aggregate sales to Government vessels during the month were $20,185.23; to Panama Railroad Company vessels, $3,117.48; to other commercial vessels, $41,549.05; making a grand total of $64,851.76.

LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, during the month of June, 1923, as compared with the same month in the years 1922 and 1921:

LOCKS.	NUMBER OF LOCKAGES.						Comparative grand totals.		
	Commercial.			Noncommercial.					
	North.	South.	Total.	North.	South.	Total.	June, 1923.	June, 1922.	June, 1921.
Gatun	185	218	403	5	5	10	413	243	205
Pedro Miguel	187	221	408	5	12	17	425	253	230
Miraflores	186	222	408	7	12	19	427	254	225
	Number of vessels put through locks.								
Gatun	198	233	431	20	24	44	475	282	256
Pedro Miguel	191	226	417	30	37	67	484	279	273
Miraflores	191	226	417	32	37	69	486	278	269

CLASSIFICATION OF NONCOMMERCIAL VESSELS.

	Gatun.	Pedro Miguel.	Miraflores.
U. S. Army and Navy vessels	30	37	40
Panama Canal equipment	14	30	29

The total consumption of water for lockages, loss in leakages, and maintenance was as follows:

	Gatun.	Pedro Miguel.	Miraflores.
	Cubic feet.	*Cubic feet.*	*Cubic feet.*
Lockages	1,538,320,000	1,459,450,000	1,337,490,000
Leakage	30,000,000	5,940,000	20,000,000
Maintenance	.....	.....	.....
Total consumption, June, 1923	1,568,320,000	1,465,390,000	1,357,490,000
Total consumption, June, 1922	945,450,000	861,852,000	755,210,000
Total consumption, June, 1921	778,640,000	690,620,000	754,580,000

METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of June, 1923, are shown in comparative form:

Rainfall.	June, 1923.	June, 1922.	June—Years of Record.		
			Maximum.	Minimum.	Mean.
Total rainfall for month:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
Pacific section	8.01	8.14	13.26	4.18	8.24
Central section	15.09	10.53	15.09	6.90	10.71
Atlantic section	13.24	9.88	17.49	8.99	13.67
Maximum recorded on any 1 day	4.20	3.47	[1] 10.86	.....	.....
Gatun Lake watershed	12.96	10.30	15.16	7.89	11.50
Chagres River watershed above Alhajuela	14.02	12.56	18.02	7.47	13.24
Maximum recorded for month at any one point	18.62	18.79	22.00	.....	.....
Minimum recorded for month at any one point	5.59	4.79	.....	2.37	.....
Hydrography.	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*	*C. f. s.*
Discharge of Chagres River at Alhajuela	2,159	2,723	4,870	1,363	2,541
Maximum momentary discharge for the month	18,921	16,100	[2] 170,000	.....	.....
Gatun Lake watershed total yield	6,655	6,203	7,895	4,477	6,229
Gatun Lake watershed net yield	6,193	5,740	7,176	4,081	5,728
Draft on Gatun Lake for lockage and power	2,532	2,004	2,532	[3] 1,138	[3] 1,858

NOTE.—This report does not include Bocas del Toro.

[1] This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28–29, 1909. [2] This figure represents the maximum momentary discharge on record, December 26, 1909. [3] Not including June, 1914.

SEISMOLOGY.

There were no seismic tremors recorded during the month.

ELECTRICAL—POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

Item.	June, 1923.	June, 1922.	June, 1921.
Gross output, KWH:			
Gatun hydroelectric station	4,434,000	4,243,800	5,294,900
Miraflores steam plant	70	2,140	7,750
Power distributed to consumers.....KWH	3,846,701	3,592,053	4,404,350
Loss of power in plant auxiliaries, transmission and transformation.....KWH	587,369	654,887	898,300
Per cent of loss of power to gross output	13.24	15.42	16.94
Water consumption.....cubic feet	3,564,793,744	3,425,116,580	4,108,884,000
Oil consumption.....barrels	851.13	1,980	1,990

Miscellaneous electrical repairs and installations of electrical equipment were made on 14 vessels during the month. There were 266 work orders issued for work to be performed by the Electrical Division during the month, as compared with 307 for June, 1922.

SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 38 vessels at Cristobal and 65 vessels at the Balboa shops. Of these, 5 were placed in dry dock at Cristobal and 7 at Balboa. The more important items of repair work performed during the month included the following:

The submarines *O–3*, *R–24*, and *R–25* were drydocked and given a general overhauling.

The U. S. Army mineplanter *Nones* was drydocked, her bottom cleaned and her main engine and dynamo overhauled; other repairs included fitting of bunker plates, renewal of stern post knees, calking of seams in hull, renewal of deck planking and stern frames, as well as various other minor repairs which were necessary to place the mineplanter in first-class condition.

Work on the rehabilitation of the steamer *Colon* proceeded during the entire month. Installation of the new boilers was practically completed, except for the piping systems, ladders, and grating. Shop overhaul of her auxiliary machinery was largely completed, and construction of the forward cold storage compartment was begun. Plating was removed from double bottoms numbers 2 and 3, floor reverse angles were renewed and all longitudinals were reriveted and stiffened by reveting additional angles at the tope and additional clips at the lower fastenings.

The steamship *Miskianza* was drydocked, her tail shaft was drawn, and new propeller blades were installed, as well as heavy running repairs made through the engine department.

The tanker *W. J. Hanna* was drydocked for cleaning and painting and at the same time periodical overhaul in the engine, deck and steward's departments was performed.

The output of the foundry in patterns and castings, as compared with the preceding month, was as follows:

	June, 1923.			May, 1923.		
	Patterns.	Castings.	Pounds.	Patterns.	Castings.	Pounds.
Iron	8	604	29,560	7	294	13,314
Steel	1	126	12,481	5	71	23,482
Nonferrous	7	282	7,577	5	636	4,858

A total of 575 job orders were completed during the month of June, leaving 599 unfinished at the close of the month. One blanket order was completed during the month, leaving a total of 347 standing orders for work to be performed June 30, 1923.

MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and the sales of water to vessels, are shown below in comparative form:

	June, 1923.	June, 1922.	June, 1921.
	Gallons.	*Gallons.*	*Gallons.*
Pumping stations	636,779,750	618,618,000	703,156,500
Filtration plants	378,763,000	363,414,000	431,750,000
Water consumed by Panama City	87,558,000	82,009,000	94,137,000
Water consumed by Colon	50,512,000	59,893,500	57,934,250
Sales of water to vessels	10,205,380	9,299,864	10,039,282

The foundations for 2 Diesel oil tanks and 2 gasoline tanks at Coco Solo were completed. Installation of a 12-inch pipe line from the oil plant at Mount Hope to Pier 6, Cristobal, with a cross connection to Dock 14, was completed except the construction of 1 valve box. Extension of a water line from the Gamboa-Miraflores main to the Rio Grande reservoir, crossing the Canal in a trench at Paraiso, was advanced to 95 per cent of completion.

DREDGING.

The general movement on the West Culebra slide, reported in May, continued throughout the month of June. The maximum movement toward the water front on the bank was 12 feet, between stations 1774 to 1779, with an average of 6 feet between the limits above mentioned, for the month. The Canal bottom was affected as a consequence for an average width of 25 feet within the prism, making it necessary to work a dipper dredge along the entire front.

Only a slight movement along the water front of the East Culebra slide was noted during the month. Seepage streams at the plus-185-foot elevation on the north end of the slide, however, increased in numbers and in volume as the Lirio Lagoon and swamp behind the slide area filled with water, as a result of heavy rains, and a further movement in this sector may be expected as a consequence.

The West Lirio Curve slide became active during the month, and a dipper dredge was at once placed in operation at that point. The dredge was able to remove the material as fast as it reached the prism.

All other slides have been quiescent during the month. There was no interference with Canal traffic during the month.

The total excavation during June was 640,280 cubic yards, as follows:

Cubic yards.	Classified as—		Character of work.	Station.	Equipment.
	Earth.	Rock.			
15,550	3,100	12,450	Maintenance	Gaillard Cut (East and West)	*Cascadas.*
7,500	1,500	6,000	Maintenance	Gaillard Cut, West Culebra slide	*Cascadas.*
4,050	1,800	2,250	Maintenance	Gaillard Cut, East Culebra slide	*Cascadas.*
3,550	700	2,850	Maintenance	Gaillard Cut, Cucaracha Signal Station slide	*Paraiso.*
12,400	2,450	9,950	Maintenance	Gaillard Cut, East Culebra slide	*Paraiso.*
22,650	5,650	17,000	Maintenance	Gaillard Cut, West Culebra slide	*Paraiso.*
28,800	3,100	25,700	Maintenance	La Pita Improvement project	*Gamboa.*
1,600	.....	1,600	Maintenance	Gaillard Cut, Paraiso, P. I.	*Gamboa.*
59,100	14,800	44,300	Maintenance	Gaillard Cut, Lirio Curve and slide	*Gamboa.*
168,400	168,400	.....	Maintenance	Pacific entrance	*No. 86.*
142,800	142,800	.....	Maintenance	Pacific entrance, East and West	*Culebra.*
171,800	171,800	.....	Maintenance	Balboa Inner Harbor	*Culebra.*
2,080	2,080	.....	Auxiliary	Dredging sand at Chame	*La Valley.*
640,280	518,180	122,100			

SCHOOLS.

The school year terminated June 30, 1923. There were 25 graduates from the high schools, 18 from Balboa and 7 from Cristobal. Of the 75 American teachers, 9 resigned at the end of the school year, and the remaining teachers were granted 92 days leave of absence without pay.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone for the month of June:

	White.	Colored.	Total.
Gross enrollment	1,911	2,601	4,512
Net enrollment	1,755	2,009	3,764
Average daily attendance	1,386	1,497.9	2,883.9
Pupils neither absent nor tardy	785	593	1,378
Number of cases of tardiness	183	132	315
Number of teachers	75	39	114

VITAL STATISTICS.

A total of 145 deaths occurred during the month of June, 1923, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to an annual death rate of 14.12 per thousand. The leading causes of death were: tuberculosis, 22; pneumonia, 16; organic diseases of the heart, 13; diarrhea and enteritis, 12; nephritis (acute and chronic), 10; Of the total deaths, 40, or 28 per cent occurred among children under 5 years of age. There were 5 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 264 live births reported during the month, and 11 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 26.79 per 1,000 population. Deaths among children under 1 year of age numbered 32, giving an infant mortality rate of 121.21 per thousand live births.

The total number of malaria cases reported during the month was 190. Of these, 9 cases were reported from Panama City, 6 from Colon, 144 from the Canal Zone, and 31 originated outside of our sanitated area. Of the total, 13 were employees, 42 nonemployees, and 135 were Army and Navy. There were 4 deaths from malaria.

OCCUPANTS OF QUARTERS.

The number of persons occupying Panama Canal and Panama Railroad quarters, shown in comparative form, was as follows:

	As of June 30, 1923.			Comparative totals.		
	Men.	Women.	Children.	June, 1923.	June, 1922.	June, 1921.
Americans	2,332	1,910	2,097	6,339	5,833	7,525
Europeans	63	29	70	162	225	213
West Indians	4.079	2,680	6,105	12,864	12,178	12,602
Totals, June, 1923	6,474	4,619	8,272	19,365	.....	.....
Totals, June, 1922	6,250	4,361	7,625	.....	18,236	.....
Totals, June, 1921	8,098	4,686	7,646	.....	.....	20,340

WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of June 20, 1923, by departments, together with a comparison of the working force for the preceding month and that of June, 1922:

	As of June 20, 1923.			Total employees.	
	Gold.	Silver.	Total.	May, 1923.	June, 1922.
Operation and Maintenance:					
Office	28	47	75	84	65
Electrical	150	146	296	303	293
Municipal Engineering	71	487	558	765	735
Lock Operation	179	570	749	827	693
Dredging	152	886	1,038	986	727
Mechanical	340	661	1,001	1,001	872
Marine	156	472	628	615	514
Fortifications	14	169	183	207	273
Totals	1,090	3,438	4,528	4,788	4,172
Supply Department:					
Transportation	36	157	193	185	179
Quartermaster	142	962	1,104	1,046	1,036
Subsistence	6	80	86	90	85
Commissary	164	766	930	922	906
Cattle Industry—Plantations	6	205	211	347	139
Hotel Washington	8	83	91	91	92
Totals	362	2,253	2,615	2,681	2,437
Accounting Department	182	8	190	190	187
Health Department	222	692	914	927	916
Executive Department	476	264	740	741	742
Totals	880	964	1,844	1,859	1,845
Panama Railroad Company:					
Superintendent	47	254	301	295	267
Transportation	64	108	172	171	166

	As of June 20, 1923.			Total employees.	
	Gold.	Silver.	Total.	May, 1923.	June, 1922.
Panama Railroad Company:—Continued.					
Receiving and Forwarding Agency	78	924	1,002	728	689
Coaling Stations	62	477	539	657	600
Totals	251	1,763	2,014	1,851	1,722
Grand totals, June, 1923	2,583	8,418	11,001	.....	.....
Grand totals, May, 1923	2,563	8,616	.....	11,179	.....
Grand totals, June, 1922	2,553	7,623	.....	.....	10,176

RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus, cash sales from stock, etc., during the month, as compared with the preceding month and the corresponding month a year ago. were as follows:

	June, 1923.	May, 1923.	June, 1922.
Material received on U. S. requisitions:			
For Department of Operation and Maintenance	$268,011.65	$166,038.40	$102,181.89
For other Canal departments	6,784.70	2,366.91	1,968.95
Totals	274,796.35	168,405.31	104,150.84
Cash sales on the Isthmus:			
Stock	26,079.05	19,691.83	21,233.14
Fuel oil	71.40	91.86	1,187.98
Scrap	594.56	2,308.09	613.26
Obsolete and second-hand material	41,301.54	20,900.52	2,656.92
Totals	68,046.55	42,992.30	25,691.30

Respectfully,

JAY J. MORROW,
Governor.

Shipping and Discharging Seamen of Vessels in United States Intercoastal Trade.

THE PANAMA CANAL, EXECUTIVE DEPARTMENT,
BALBOA HEIGHTS, C. Z., July 17, 1923.

To Masters and Agents of American vessels in coastwise trade.—My attention has been called to the fact that Masters of American vessels in the coastwise trade by way of the Canal are shipping and discharging seamen at the Canal Zone without appearing before the Shipping Commissioner, as required by law.

Section 4511 of the Revised Statutes requires a Master bound from a port on the Atlantic to a port on the Pacific, or *vice versa*, to provide the same articles of agreement and to follow the same practices and regulations that are required in the foreign trade.

Section 9 of the Act of August 21, 1916, states that the laws relating to seamen of vessels of the United States on foreign voyages shall apply to seamen of all vessels of the United States at the Panama Canal Zone, whether such vessels be registered or enrolled and licensed, and the powers in respect to such seamen bestowed by law upon consular officers of the United States and upon shipping commissioners in ports of the United States are bestowed upon the Shipping Commissioner and Deputy Shipping Commissioners on the Panama Canal Zone.

This matter is brought to your attention with the expectation that there will be strict compliance with the law in the future, as such action on the part of the Masters is not only in conflict with the law quoted above but also violates the local immigration laws.

JNO. H. SMITH,
Acting Executive Secretary.

Origin and Destination of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, June, 1923.

(Figures represent tons of 2,240 pounds.)

From—	South America.						North America.						Asia.					Australasia.						
	Chile.	Colombia.	Ecuador.	Peru.	West coast of South America.[1]	Total, South America.	West coast of United States.	West coast of Mexico.	West coast of Canada.	West coast of Central America.	Balboa, C. Z.	Total, North America.	Japan.	China.	Philippines.	Far East.[2]	Total, Asia.	New Zealand.	Australia.	Australasia.[2]	Total, Australasia.	Hawaii.	Grand totals.	Per cent of total cargo.
North America																								
United States—																								
North Atlantic ports	14,277	900	800	6,976	4,388	27,341	221,595	.....	2,201	434	9	224,239	31,907	15,672	1,372	20,880	69,831	4,916	31,541	.....	36,457	5,621	363,489	55.4
South Atlantic ports	2,014	.....	.....	.....	.....	2,014	6,703	.....	.....	.....	.....	6,703	3,233	2,829	173	2,462	8,697	320	637	.....	957	.....	18,371	2.8
Gulf ports	4	.....	.....	2	1,906	1,912	43,931	.....	.....	.....	8,000	51,931	12,245	11,096	2,043	19,837	45,221	5,494	400	.....	5,894	749	105,707	16.1
Totals, United States	16,295	900	800	6,978	6,294	31,267	272,229	.....	2,201	434	8,009	282,873	47,385	29,597	3,588	43,179	123,749	10,730	32,578	.....	43,308	6,370	487,567	74.3
East coast of Mexico	19,351	.....	.....	.....	.....	19,351	.....	869	.....	.....	.....	869	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20,220	3.1
Cristobal, C. Z.[2]	689	549	879	574	727	3,418	685	1,269	.....	3,689	.....	5,643	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,061	1.4
West Indies	527	.....	.....	40	.....	567	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	567	.....
East coast of Canada	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,393	1,657	3,500	11,550	.....	11,550	1.8
Totals, North America	36,862	1,449	1,679	7,592	7,021	54,603	272,914	2,138	2,201	4,123	8,009	289,385	47,385	29,597	3,588	43,179	123,749	17,123	34,235	3,500	54,858	6,370	528,965	80.6
Europe																								
Belgium	44	.....	22	23	85	174	6,263	.....	.....	.....	.....	6,263	.....	.....	.....	.....	.....	3,868	.....	.....	3,868	.....	10,305	1.6
British Isles	2,781	.....	1,260	4,338	1,380	9,759	35,468	.....	8,560	.....	.....	44,028	.....	.....	.....	.....	.....	19,376	.....	6,900	26,276	.....	80,063	12.2
France	40	.....	.....	.....	.....	40	703	.....	57	.....	.....	760	.....	.....	.....	.....	.....	.....	.....	1,316	1,316	.....	2,116	.3
Germany	9,991	115	369	1,869	3,158	15,502	1,012	1,400	265	.....	.....	2,677	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18,179	2.8
Holland	.....	.....	.....	.....	.....	.....	605	.....	.....	.....	.....	605	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	605	.1
Italy	105	.....	205	75	323	708	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	708	.1
Norway and Sweden	.....	.....	.....	.....	.....	.....	8,892	.....	.....	.....	371	9,263	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,263	1.5
Spain	.....	.....	.....	.....	261	261	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	261	.....
Europe[1]	1,464	.....	.....	1,464	.....	2,928	1,113	.....	.....	.....	.....	1,113	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,041	.6
Totals, Europe	14,425	115	1,856	7,769	5,207	29,372	54,056	1,400	8,882	.....	371	64,709	.....	.....	.....	.....	.....	23,244	.....	8,216	31,460	.....	125,541	19.2
East coast, South America	.....	489	.....	994	.....	1,483	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,483	.2
Grand totals	51,287	2,053	3,535	16,355	12,228	85,458	326,970	3,538	11,083	4,123	8,380	354,094	47,385	29,597	3,588	43,179	123,749	40,367	34,235	11,716	86,318	6,370	655,989	100.0
Per cent of total cargo																								
June, 1923	7.8	.3	.5	2.5	1.9	13.0	49.8	.5	1.8	.6	1.3	54.0	7.2	4.5	.5	6.6	18.8	6.2	5.2	1.8	13.2	1.0	100.	.....
June, 1922	7.8	.4	.2	3.6	8.0	20.0	34.5	.6	2.7	.3	2.7	41.9	10.4	6.6	.....	7.9	24.9	3.9	4.8	3.1	11.8	1.4	.....	.....
June, 1921	11.7	.4	.1	2.0	5.5	19.7	30.3	1.8	8.3	2.0	2.0	44.4	10.6	8.1	.2	6.4	25.3	1.6	3.9	5.1	10.6	.....	.....	.....

[1] General cargo not routed so as to allow segregation between definite ports.

[2] Includes both local and transit cargo.

Origin and Destination of Cargo Passing Through the Panama Canal from the Pacific to Atlantic, June, 1923.

(Figures represent tons of 2,240 pounds.)

From—	North America. United States. North Atlantic ports.	North America. United States. South Atlantic ports.	North America. United States. Gulf ports.	North America. United States. Total, United States.	North America. East coast of Canada.	North America. West Indies.	North America. East coast of Mexico.	North America. Cristobal, C. Z.[2]	North America. Total, North America.	Europe. British Isles.	Europe. Belgium.	Europe. France.	Europe. Germany.	Europe. Holland.	Europe. Norway and Sweden.	Europe. Spain and Portugal.	Europe. Europe.[1]	Europe. Total, Europe.	East coast of South America.	Grand totals.	Per cent of total cargo.
South America:																					
Chile	68,318			68,318		4		7,055	75,377	12,742		680	3,813	97		2	5,413	22,747		98,124	6.8
Colombia	1,049			1,049				1,856	2,905										95	3,000	.2
Ecuador	1,095			1,095				1,886	2,981				193	194		82	375	844		3,825	.2
Peru	20,749			20,749		14,110		3,419	38,278	3,897			749			7		4,653		42,931	3.0
West coast of South America[1]	500		6,300	6,800				1,324	8,124				1,958					1,958		10,082	.7
Totals, South America	91,711		6,300	98,011		14,114		15,540	127,665	16,639		680	6,713	291		91	5,788	30,202	95	157,962	10.9
North America																					
West coast of United States	772,088	20,424	99,165	891,677	15,000	4,162	120,914	11,481	1,043,234	76,746	978	8,553		604	5,049		7,163	99,093	3,665	1,145,992	79.5
West coast of Mexico																1,568		1,568		1,568	.1
West coast of Canada	26,493	2,050		28,543	8,249				36,792	7,679		1,346		100			8,238	17,363		54,155	3.7
West coast of Central America	281			281				2,965	3,246			905	19		352		229	1,505		4,751	.4
West coast of North America[1]										9,405								9,405		9,405	.7
Balboa	60			60					60											60	
Totals, North America	798,922	22,474	99,165	920,561	23,249	4,162	120,914	14,446	1,083,332	93,830	978	10,804	19	704	5,401	1,568	15,630	128,934	3,665	1,215,931	84.4
Asia:																					
China	5,387			5,387		4,123			9,510											9,510	.7
Japan	1,622			1,622					1,622											1,622	.1
Philippines	10,485		200	10,685					10,685											10,685	.8
Far East[1]	8,342			8,342					8,342											8,342	.6
Totals, Asia	25,836		200	26,036		4,123			30,159											30,159	2.2
Australasia:																					
Australia	2,280			2,280					2,280											2,280	2
New Zealand	3,708			3,708	650				4,358	16,682								16,682		21,040	1.4
Australasia[1]																5,185	7,900	13,085		13,085	.9
Totals, Australasia	5,988			5,988	650				6,638	16,682						5,185	7,900	29,767		36,405	2.5
Grand totals	922,457	22,474	105,665	1,050,596	23,899	22,399	120,914	29,986	1,247,794	127,151	978	11,484	6,732	995	5,401	6,844	29,318	188,903	3,760	1,440,457	100.0
Per cent of total cargo:																					
June, 1923	64.0	1.7	7.3	73.0	1.7	1.5	8.4	2.0	86.6	8.8		.7	.5		.4	.7	2.0	13.1		100.0	100.0
June, 1922	52.6	4.2	1.0	57.8		.8		3.7	62.3	23.1	3.1	2.9	3.0	.5			4.6	37.5			
June, 1921	29.1	11.4	3.6	44.1		1.7		4.1	49.9	30.1	.9	.4	4.2	.4	1.1	.1	6.9	49.9			

[1] General cargo not routed so as to allow segregation among definite ports.

[2] Includes both local and transit cargo.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 21, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Camden [1]	12	10.10	15	6.20	15	13.56	15	15.15	American	United Fruit Co	419.5	56.5	22.0	Tampico	San Pedro	Ballast		6,977	4,959
Santa Tecla	14	18.41	15	6.20	15	14.40	15	20.14	American	Grace Line	298.6	40.0	20.2	New York	Pto. Chicama	General	1,901	2,832	1,803
J. M. Danziger [1]	15	2.00	15	7.14	15	15.24	15	16.28	American	Pan-American Pet. & Trans. Co.	430.0	58.0	20.0	New York	Los Angeles	Ballast		6,963	4,886
Edward L. Doheny, Jr. [1]	15	2.17	15	7.40	15	15.40	15	16.55	American	Pan-American Pet. & Trans. Co.	467.6	62.7	22.0	New York	San Pedro	Ballast		6,655	7,166
Malacca Maru	15	6.00	15	8.35	15	16.24	15	17.32	Japanese	Nippon Yusen Kaisha	400.0	54.0	21.0	Norfolk	Yokohama	General	3,400	5,819	4,110
Dillwyn [1]	15	8.05	15	9.15	15	17.11	15	21.52	American	Malston & Co	435.0	56.0	18.0	New York	San Pedro	Ballast		7,441	5,180
Hampton Roads [1]	15	8.52	15	9.55	15	17.14	17	1.05	American	McAllister Bros. (S. B.)	431.0	59.2	22.0	Fall River	San Pedro	Ballast		8,093	5,440
Robert Luckenbach	15	9.12	15	11.00	15	18.38	15	19.31	American	Luckenbach Line	445.0	58.0	24.10	New York	Seattle	General	8,000	8,695	6,375
Calgarolite [1]	15	11.38	15	11.53	15	19.37	15	20.50	British	Imperial Oil Co	463.3	60.2		New York	Talara	Ballast		8,491	6,096
Fred. W. Weller [1]	15	12.12	15	13.10	15	20.27	15	21.36	American	Standard Oil Co	500.0	68.0	18.6	Baltimore	San Pedro	Ballast		10,921	7,710
Rhodophis	15	3.20	15	13.25	15	21.25	15	22.22	German	Kosmos Line	435.7	53.0	23.9	Hamburg	Guayaquil	General	4,694	7,525	5,154
W. F. Burdell [1]	15	13.10	15	13.59	15	22.11	16	15.10	American	Pure Oil Steamship Co	435.0	56.0	21.6	Philadelphia	San Pedro	Ballast		7,434	5,093
Romague	15	14.41	16	6.25	16	14.09	16	18.25	American	Independent Steamship Co	251.0	43.7	21.4	Galveston	Oakland	Sulphur	3,401	2,651	1,619
Sciota [2]			16	6.35	16	14.03	19	22.51	American	U. S. Navy	155.0	30.0		Cristobal	Balboa	(4)			
Valdura	15	18.52	16	7.20	16	14.52	16	16.00	British	Valdura Steamship Co	414.3	56.0	14.6	New York	Iquique	Ballast		6,101	4,358
Quail [2]			16	7.30	16	15.45			American	U. S. Navy	180.0	35.6		Cristobal	Balboa	(5)			
Mundelta	15	20.37	16	7.55	16	15.48	16	22.25	American	Munson Line	370.0	53.2	22.6	New York	San Pedro	General	5,600	5,668	4,297
Solana [1]	16	0.30	16	8.45	16	16.10	16	22.51	American	Pacific Mail Steamship Co	419.5	56.5	20.0	Fall River	San Pedro	Ballast		7,060	5,025
Key West	15	3.40	16	11.00	16	18.00	16	19.10	Norwegian	K. Knutsen O. A. S	380.0	53.0	18.0	Cardiff	Los Angeles	Ballast		5,585	4,157
Wordsworth	16	11.30	16	13.15	16	19.35	16	20.30	British	Shakespear Steamship Co	354.8	48.0	13.0	Gibraltar	Pisagua	Ballast		4,188	3,012
Swazi	16	18.09	17	6.10	17	13.54	17	15.05	British	Ellerman & Bucknell	380.0	50.0	21.9	New York	Auckland	General	2,759	5,227	3,736
Alameda [1]	17	5.15	17	7.20	17	14.23	17	15.30	American	H. L. Arnold & G. L. Craig	430.0	58.2	21.0	Baton Rouge	Los Angeles	Ballast		7,425	5,356
John D. Rockefeller [1]	17	6.10	17	7.55	17	17.21	17	18.20	American	Standard Oil Co	458.3	60.0	19.6	New York	San Pedro	Ballast		8,633	6,314
Koranna	17	6.45	17	8.35	17	15.56	17	21.23	British	Bucknell Steamship Line	350.0	52.0	23.9	New York	Suva	General	5,029	4,838	3,397
J. W. Van Dyke [1]	17	12.30	17	12.45	17	19.25	17	20.08	American	Atlantic Refining Co	435.0	56.0	22.6	Newport News	Los Angeles	Ballast		7,460	5,215
Ruby [3]	14		17		17	14.32			American	E. J. Hooper				Cristobal	Gatun Lake	Ballast		1	1
Tiger	17	19.29	18	6.20	18	13.20	18	16.50	American	Standard Transportation Co	410.0	56.0	27.6	New York	Seattle	General	9,400	8,243	6,312
Albert Jeffress	17	16.14	18	6.55	18	14.52	18	15.53	American	Garland Steamship Corp	384.0	51.0	22.0	New York	Seattle	General	5,500	6,347	4,453
Walter Jennings [1]	17	0.50	18	7.30	18	15.56	18	17.00	American	Standard Oil Co	499.2	68.0	18.4	New York	San Pedro	Ballast		11,037	7,995
Cardiganshire	17	11.55	18	8.32	18	16.33	18	21.40	British	Royal Mail Steam Packet Co	500.0	62.4	26.7	Rotterdam	Vancouver	(6)	8,892	11,420	8,385
Cerro Azul [1]	18	7.55	18	9.07	18	16.35	18	17.25	American	Pan-American Pet. & Trans. Co.	480.5	66.0	24.0	New York	San Pedro	Ballast		9,398	6,453

[1] Tanker. [2] Tug. [3] Launch. [4] Towing barges Nos. 263 and 476. [5] Towing submarine O-9. [6] General, sand, and cement.

Dixie Arrow[7]	18	8.10	18	10.00	18	17.21	18	18.25	American	Standard Oil Co	468.3	62.7	23.0	Providence	San Pedro	Ballast		9,744	7,140
Alaska	17	17.07	18	10.27	18	18.03	18	19.10	French	French Line	425.0	54.8	19.7	Fort de France	Los Angeles	General	2,000	6,990	4,854
Georgian	18	12.40	18	12.50	18	19.00	18	23.36	American	American-Hawaiian Line	386.8	52.2	21.6	Savannah	San Pedro	General	5,579	5,719	4,023
James McGee[1]	18	5.40	18	13.25	18	19.54	20	1.20	American	Standard Oil Co	499.1	68.2	18.6	New York	San Pedro	Ballast		10,964	7,909
Elveric	18	16.04	19	6.25	18	13.52	19	15.00	British	Andrew Weir & Co	399.0	53.0	22.0	New York	Manila	General, ease oil.	5,000	6,277	4,497
Laura C. Hall[7]	18	16.27	19	6.19	18	15.00	20	10.07	British	Pacific Metals Corp	81.0	25.6	9.0	Cristobal	Buenaventura	General	48	132	72
Agwisun[1]	18	17.03	19	7.43	19	15.05	19	22.00	American	Atlantic Gulf & W. I. S. S. Co	429.0	59.2	16.0	New York	San Pedro	Ballast		7,612	5,402
Santa Ana	18	16.36	19	8.09	19	15.40	19	17.30	American	Grace Line	369.2	51.6	23.5	New York	Talcahuano	General	2,346	5,776	4,081
Davanger[1]	18	16.42	19	8.40	19	16.10	19	17.30	Norwegian	Westfal Larsen & Co	425.0	56.8	16.0	Rotterdam	Los Angeles	Ballast		7,125	4,916
Toco[1]	19	1.40	19	9.10	19	17.13	19	18.50	British	Sheridan Steamship Co	440.8	56.0	26.6	Tampico	Tocopilla	Crude oil		9,607	7,693	4,831
Koyo Maru	19	2.00	19	9.50	19	17.28	20	1.04	Japanese	Toyo Kisen Kaisha	400.0	53.0	17.0	Philadelphia	Yokohama	General		1,713	6,233	4,398
Allaguash	19	7.10	19	10.30	19	19.11	19	23.35	American	Allaguash Steamship Corp	364.5	50.5	21.0	New York	Tacoma	General		4,582	4,727	3,643
Aysen	15	19.12	19	10.40	19	18.13	19	19.23	Chilean	Chilean Line	379.6	44.3	21.9	Cristobal	Valparaiso	General		783	4,535	3,068
El Montecillo	18	12.22	19	11.18	19	19.26	19	20.45	Spanish	General Navigation Co	330.0	48.0	12.0	Gijon	Tocopilla	Ballast			3,464	2,310
A. C. Bedford[1]	18	7.00	19	11.45	19	20.00	19	21.00	American	Standard Oil Co	500.0	68.0	18.8	Charleston	San Pedro	Ballast			10,896	7,688
Capto	18	21.07	19	12.30	19	20.40	19	22.00	Norwegian	B. Stolt Nielsen & Co	376.1	52.3	16.5	Norfolk	Los Angeles	Ballast			5,076	3,647
Sutermeo	19	15.05	20	6.15	20	15.05	20	16.30	American	Submarine Boat Corp	324.0	46.0	20.0	New York	Los Angeles	General		2,000	3,984	2,612
Alvarado	18	18.55	20	6.15	20	15.13	20	16.35	British	Pacific Steam Navigation Co	303.0	43.0	17.0	New York	Guayaquil	General		737	2,844	1,748
Frederic Ewing[1]	19	17.45	20	7.15	20	15.55	20	17.05	American	Pan-American Pet. & Trans. Co	435.0	56.0	23.0	Providence	Los Angeles	Ballast			7,465	5,176
Buenos Aires	18	18.08	20	7.41	20	16.01	20	17.05	Spanish	Spanish Line	410.6	48.2	21.6	Barcelona	Valparaiso	General		144	5,624	3,844
Bogstad	20	6.35	20	8.55	20	16.45	20	18.55	Norwegian	Fearnley & Eger	385.1	52.0	13.6	Greenock	San Francisco	Ballast			5,843	4,288
City of Evansville	19	12.15	20	9.05	20	17.12	20	18.17	British	Ellerman, Hall Line	433.2	57.3	25.5	New York	Brisbane	(10)		6,759	8,627	6,644
Acajutla	9	17.00	20	10.35	20	17.36	20	20.55	British	Pacific Steam Navigation Co	215.0	33.6	16.6	Cristobal	Champerico	General		948	1,273	706
Vacuum[1]	20	9.15	20	12.50	20	19.19	20	23.40	American	Vacuum Oil Co	425.8	57.0	17.7	Philadelphia	San Pedro	Ballast			7,473	5,034
Great City	20	14.35	21	6.15	21	14.13	21	15.35	British	W. R. Smith & Sons	420.0	56.9	27.0	New York	Newcastle	General		8,960	7,029	5,478
Herakles	20	19.00	21	6.15	21	13.20	21	14.30	Norwegian	Bruusgaard & Co	389.0	54.0	16.6	Philadelphia	Callao	Explosives		75	5,680	4,220
Victolite[1]	20	15.47	21	7.25	21	16.03	21	17.15	British	Imperial Oil Co	500.4	70.0	22.2	Montreal	Talara	Ballast			11,049	7,732
W. S. Rheem[1]	21	0.01	21	7.35	21	15.10	21	16.20	American	Standard Oil Co	500.0	68.2	23.6	Charleston	San Pedro	Ballast			11,224	7,860
Sultana[8]	20	10.20	21	7.40	21	17.24			American	Paul E. De & Vere	161.1	28.0	15.0	New York	San Diego	Ballast			411	214
Pennsylvania Sun[1]	21	0.55	21	8.40	21	16.35	21	21.14	American	Sun Oil Co	480.5	66.0	21.4	Philadelphia	Los Angeles	Ballast			9,325	6,383
David McKelvy[1]	21	1.05	21	8.20	21	18.13	21	19.40	American	Tidewater Oil Co	430.0	59.2	18.0	New York	San Pedro	Ballast			7,629	5,393
Nora[1]	20	11.00	21	9.35	21	19.00	21	20.10	American	Pan-American Pet. & Trans. Co	467.6	62.7	18.7	New Orleans	San Pedro	Ballast			9,918	7,468
Esther Dollar	21	6.20	21	9.50	21	20.05	22	2.10	British	Canadian Robert Dollar Co	483.6	56.0	29.6	Genoa	Singapore	General		5,012	9,872	7,140
Hammac[1]	21	6.40	21	11.15	21	20.40	21	21.50	American	General Petroleum Co	435.0	56.2	22.0	Chester	San Pedro	Ballast			7,433	5,058
Kaprino	21	12.45	21	11.20	21	21.31	21	22.44	Norwegian	Carl Wilthagen	306.6	47.0	17.9	Philadelphia	Valparaiso	(11)		1,080	3,277	2,177
Missourian[9]	21	12.35	21	12.50	21	22.13	21	23.16	American	American-Hawaiian Line	445.0	59.8	23.0	Boston	Puget Sound	General		6,043	8,567	6,020

[1] Tanker. [7] Motor schooner. [8] Yacht. [9] Motor ship. [10] Gasoline, petroleum, and general. [11] Locomotives and tender.

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.

Wm. A. McKenney	14	15.25	15	7.02	15	17.40	15	19.30	American	Crowell & Thurlow	357.0	55.1	27.0	Everrett	Baltimore	Lumber		6,900	6,532	4,528
Lima[12]	14	12.45	15	8.00	15	17.40	15	17.40	Sweden	Johnson Line	364.1	55.1	26.0	Vancouver	Stockholm	General		5,617	5,304	3,900
Hadnot[1]	14	21.30	15	8.26	15	18.21	15	18.21	American	Tankers Corp	416.9	56.2	26.6	San Pedro	New York	Oil in bulk		(13)	6,705	4,680

[1] Tanker. [12] Motor ship. [13] 61,579 barrels.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Aysen	14	24.00	15	9.11	15	19.12	19	10.40	Chilean	Chilean Line	373.6	44.3	19.3	Talcahuano	Cristobal	General	110	4,535	3,068
Magellan	15	3.30	15	9.39	15	19.50	16	16.27	British	Pacific Steam Navigation Co	461.6	59.3	26.10	Punta Arenas	London	(14)	9,059	8,817	6,063
Huallaga	15	6.00	15	11.00	15	19.25	22	10.50	Peruvian	Peruvian Line	360.0	44.7	20.10	Ilo	Cristobal	General	1,845	4,514	2,386
Belfast Maru	15	9.36	15	11.48	15	21.00	15	23.12	Japanese	Kokusai Kisen Kaisha	405.0	53.0	28.0	Mejillones	Philadelphia	Nitrates	9,300	7,043	5,077
Astyanax	15	5.00	15	12.21	15	21.10	15	22.30	British	Alfred Holt & Co., Ltd	390.0	49.1	25.1	Victoria	Glasgow	(15)	6,121	5,165	3,211
Almagro	15	13.00	15	14.23	15	22.00	16	17.15	British	Pacific Steam Navigation Co	303.4	43.0	17.0	Guayaquil	New York	Coffee, general	1,092	2,877	1,714
Saint Louis	15	17.30	16	7.05	16	15.05	17	12.10	French	French Line	397.9	50.3	26.3	Valparaiso	Havre	General	6,489	5,857	4,166
Robin Hood	15	22.00	16	8.05	16	15.35	16	15.35	American	Seas Shipping Co	424.8	55.6	22.0	Vancouver	Boston	General	5,900	7,473	5,533
Odenwald	15	22.50	16	8.55	16	17.10	16	20.40	German	Hamburg-American Line	399.6	54.3	26.0	Valparaiso	Hamburg	Saltpeter	8,193	6,808	4,979
Agwibay [1]	15	22.00	16	11.20	16	18.59	16	18.55	American	New York & Cuban Mail S.S.Co.	468.3	62.7	27.3	San Pedro	Baltimore	Crude oil	12,605	9,776	6,903
Ansaldo San Giorgio II	16	4.00	16	13.36	16	21.10	17	15.36	Italian	Societe Naz. de Navigacion	391.7	51.7	24.0	Valparaiso	Scatl, Med	General	6,850	5,591	3,975
Mineola	16	4.30	16	15.25	16	21.58	17	11.35	American	Grace Line	298.6	40.0	16.5	Salaverry	New York	General	718	2,835	1,805
Saint Jerome [1]	16	14.30	17	7.09	17	15.10	17	15.10	French	Association Petroliere	351.4	49.1	24.0	San Pedro	Rouen	Gasoline	5,317	4,390	2,949
Talamanca			17	7.10	17	14.45			Panaman	United Fruit Co	67.0	18.0	7.6	Puerto Neutis	Cristobal			40	27
Quail			17	7.30	17	16.20			American	U. S. Navy	155.0	30.0		Balboa	Cristobal				
Corinto	16	18.45	17	8.16	17	15.20			American	Pacific Mail Steamship Co	261.1	40.0	14.8	San Francisco	Cristobal	(16)	606	2,403	1,560
Chuky [1]	16	21.00	17	8.59	17	16.22	17	18.05	British	Chile Steamship Co	440.0	56.0	14.0	Tocopilla	Tampico	Ballast		7,691	4,723
Amsterdam	17	.30	17	9.39	17	17.45	17	23.37	British	Royal Netherlands S. S. Co	494.0	65.6	31.0	Caleta Bueno	Rotterdam	Nitrate	14,000	11,647	8,217
Charles Pratt [1]	17	2.20	17	10.37	17	20.00	17	20.00	American	Standard Oil Co. of N. J	500.0	68.0	29.5	San Pedro	New York	Crude oil	15,398	10,313	7,492
Plum Branch	17	4.00	17	10.47	17	18.55	17	21.10	British	Nautilus Steamship Co	398.6	58.8	22.0	Valparaiso	Liverpool	Nitrate, general	5,943	5,761	3,881
Margaret Dollar	17	6.35	17	11.15	17	20.57	17	21.35	American	Robert Dollar Co	429.0	55.2	26.6	San Pedro	New York	(17)	2,087	7,579	5,527
Hoven [1]	17	7.00	17	14.18	17	12.18	17	22.18	American	Walker & Daly	434.8	56.2	25.3	San Pedro	New York	Crude oil	9,828	7,426	5,144
Oregon Maru	17	14.00	17	14.50	18	.05	18	9.00	Japanese	Yenekichi Maru	385.0	51.0	28.0	Tocopilla	New York	Copper ore	8,392	6,251	4,700
Laura C. Hall	6	13.50	18	7.02	18	16.27	19	6.19	British	Pacific Metals Corp	81.0	25.6	9.0	Buenaventura	Cristobal	(18)	35	132	72
Geisha	18	2.00	18	8.11	18	17.26	19	16.40	Norwegian	Winge & Co	375.0	51.4	21.3	Apia	New Orleans	Copra	5,300	5,681	3,925
Californian	18	4.19	18	8.44	18	16.07	18	16.07	American	A. H. Steamship Co	461.8	59.8	19.0	San Pedro	New York	General	4,000	8,567	6,020
Maricopa [1]	18	10.00	18	13.17	18	20.25	18	22.55	Norwegian	General Petroleum Co	425.5	57.0	26.6	San Pedro	Southampton	Crude oil	8,714	7,000	5,105
Hy. D. Whiton	18	16.30	19	7.08	19	14.50	19	14.50	American	Union Sulphur Co	356.0	51.6	14.6	San Francisco	Sabine	Ballast		5,367	2,925
Howick Hall	18	21.45	19	7.50	19	16.30	19	18.25	American	Isthmian Line	400.8	51.5	24.8	Vancouver	Glasgow	(19)	6,462	6,095	4,381
Paul Shoup [1]	18	22.40	19	9.08	19	17.00	19	17.00	American	Associated Oil Co	424.4	58.2	28.0	San Pedro	Fall River	Crude oil	10,252	7,333	5,119
Agwihavre [1]	18	23.46	19	9.50	19	17.38	19	17.38	American	Ward Line	480.5	66.0	29.0	San Pedro	New York	Crude oil	13,300	9,393	6,305
Henry Luckenbach	19	6.00	19	10.28	19	18.40	19	18.40	American	Luckenbach Line	448.9	60.2	27.6	San Pedro	New York	General, lumber	6,442	9,262	6,853
Aconcagua	19	7.00	19	11.22	19	20.06	20	2.15	Chilean	Chilean Line	422.8	56.2	24.0	Valparaiso	New York	General	3,995	7,758	4,705
Antietam [1]	19	6.30	19	12.37	19	21.10	19	21.10	American	Chas. Kurig & Co	435.6	56.2	26.9	San Pedro	Baton Rouge	Crude oil	9,852	7,426	5,094
G. Harrison Smith	19	14.30	20	6.42	20	16.35	21	6.22	British	International Petroleum Co	550.2	72.3	33.6	Cruz Grande	New York	Iron ore	20,000	15,476	11,102

[1] Tanker. [14] Nitrate, wool, oats, etc. [15] Wheat, barley, flour, and general. [16] Merchandise, coffee, and hides. [17] Wood products and copper. [18] Coffee, platinum, and gold. [19] Wheat, lumber, and general.

Agwistone[1]	19	17.05	20	8.06	20	16.35	20	16.35	American	New York & Cuban Mail S. S. Co.	499.9	68.1	27.6	San Pedro	New York	Crude oil	15,748	10,600	7,527
Edgar F. Luckenbach	19	23.56	20	8.20	20	16.50	20	17.50	American	Luckenbach Line	425.0	57.2	18.3	San Pedro	New Orleans	(20)	1,622	8,568	6,565
Ionic	19	23.00	20	9.17	20	18.00	21	6.02	British	Shaw, Saville & Albion	500.3	63.3	23.0	Wellington	Southampton	General	2,137	12,872	9,577
Argon	20	4.00	20	10.58	20	18.50	20	18.50	American	Standard Transportation Co	435.6	56.6	27.0	San Pedro	New York	Crude oil	9,656	7,386	5,137
Cape Cod	20	5.00	20	13.21	20	21.08	21	10.30	American	Cape Oil Co	455.8	57.0	25.0	San Pedro	Bayonne	Crude oil	9,775	7,218	4,955
Mina Brea[1]	20	17.45	21	6.49	21	15.30	21	18.45	British	Imperial Oil Co	360.3	49.2	25.0	Talara	Habana	Crude oil	6,000	4,437	2,717
Eagle	21	3.15	21	8.05	21	16.00	21	16.00	American	Standard Transportation Co	410.0	56.0	24.0	Portland	Baltimore	General	5,872	8,243	6,266
Yankee Arrow[2]	21	3.26	21	8.57	21	16.30	21	16.30	American	Standard Transportation Co	468.3	62.7	17.6	Hankow	Beaumont	Ballast	.....	9,841	6,946
H. M. Storey[1]	21	10.15	21	11.26	21	19.12	21	19.12	American	Standard Oil Co	500.0	68.2	29.6	Los Angeles	Baltimore	Crude oil	15,220	11,224	7,849
Robert E. Hopkins[1]	21	.08	21	12.17	21	20.40	21	20.40	American	Tidewater Oil Co	424.4	58.2	24.6	Los Angeles	New York	Crude oil	10,354	7,335	5,244
District of Columbia[1]	21	12.30	21	13.30	21	22.25	22	1.15	American	Walker & Daly (S. B.)	431.0	59.2	26.6	Los Angeles	Fall River	Crude oil	9,390	8,097	5,362
Balboa	21	14.10	21	15.29	21	22.50	.....	.....	Colombian	Compania Costanera Colombiana	190.0	29.1	15.0	Tumaco	Cristobal	General	607	737	335

[1] Tanker. Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian. [20] Shingles, canned goods, and general.

PORT OF CRISTOBAL.

*ARRIVALS.				*DEPARTURES.			
Date.	Vessel.	Line.	From—	Date.	Vessel.	Line.	For—
July 15	Abangarez	United Fruit Co	New Orleans via Habana.	July 15	Ulua	United Fruit Co	New York via Habana.
July 15	Ulua	United Fruit Co	Port Limon.	July 16	Abangarez	United Fruit Co	Bocas.
July 15	Perou	French Line	Havre via wayports.	July 16	Eupatoria	Hamburg-American Line	Port Limon.
July 15	Eupatoria	Hamburg-American Line	Hamburg via wayports.	July 18	Ulysses[2]	Panama Railroad Steamship Line	Norfolk.
July 17	San Bruno	United Fruit Co	Boston via Habana.	July 18	Toloa	United Fruit Co	Port Limon.
July 17	Toloa	United Fruit Co	New York via Habana.	July 18	Nessian	Leyland Line	New York.
July 17	Nessian	Leyland Line	Liverpool via wayports.	July 19	Perou	French Line	Havre via wayports.
July 18	Cartago	United Fruit Co	New Orleans via Habana.	July 19	San Bruno	United Fruit Co	Boston via Port Limon.
July 18	Tivives	United Fruit Co	New York via Kingston.	July 19	Tivives	United Fruit Co	Colombian ports.
July 18	Ulysses[2]	Panama Railroad Steamship Line	High seas.	July 19	Cartago	United Fruit Co	New Orleans via wayports.
July 19	Abangarez	United Fruit Co	Bocas.	July 19	Abangarez	United Fruit Co	New Orleans.
July 20	St. Mihiel[3]	U. S. Army	New York via San Juan.	July 19	Cristobal	Panama Railroad Steamship Line	New York via Haiti.
July 20	Chateau Thierry[3]	U. S. Army	New York and wayports.	July 21	Bayano	Elders & Fyffes Line	Kingston and Bristol.
July 21	Bayano	Elders & Fyffes Line	Port Limon.	July 21	Ulysses[2]	Panama Railroad Steamship Line	Norfolk.

[2] Towing steamship Gen. H. F. Hodges. [3] Transport.

PORT OF BALBOA.

July 17	Memnon[1]	General Steamship Corp. (S. B.)	Iquique.	July 17	Memnon[1]	General Steamship Corp. (S. B.)	San Francisco.
July 19	Utacarbon[1]	Union Oil Co	Port San Luis.	July 21	Utacarbon[1]	Union Oil Co	San Pedro.
July 20	Acasta[1]	Anglo-Saxon Petroleum Co	San Pedro.	.....	.....	.....	.....
July 20	Colusa	Grace Line	San Francisco.	.....	.....	.....	.....

[1] Tanker. * Other than ships passing through the Canal.

Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs since the the last report, dated July 7:

Motor ship *Ansaldo San Giorgio II*, repair 2 brackets from main engine; steamship *Hampton Roads*, repair lubricating oil pump, manufacture spare set of packing rings; renew section of 2½-inch pipe; motor ship *Lirio de Agua*, repair deck winches; Diesel engine; remove oil bilge pump and install new pump; make necessary change in pipe system; motor schooner *Laura C. Hall*, dismantle Diesel engine for removal of crank shaft; remetal crank shaft bearings, rod bearings; fit and bed in; line up; reassemble and perform miscellaneous minor repairs for deck department; steamships *Dryden*, manufacture 2 armature shafts and remetal bearings; install cast iron flanged tee in circulating line and perform miscellaneous minor repairs in engine department; *James McGee*, dismantle steering gear (steam type), install spare wheel; reassemble and test out; motor ship *Misintro Juan de Game*, dismantle and overhaul air compressor; reassemble and test out; manufacture 1 sail; repair oil pipe line, compass; manufacture chart board and perform miscellaneous repairs for deck department; steamship *Mina Brea*, weld and calk leaking boiler tubes and stays; repair discharge strainer manifold; cableship *Guardian*, repair steering gear; winches; manufacture 12 ventilators; repair grapnel anchor; manufacture and install fresh water tank in galley; repair sanitary system and furnish services of diver to examine propellers; steamship *Bethelridge*, open up main engine; renew main bearings, thrust bearings; clean up rotor journals; set turbine and reassemble; repair blower engines; lubricating oil pump, oil cooler pump, fuel oil pump, anchor windlass engine, refrigerating machinery; and minor repairs to deck and steward's department; U. S. submarine *O–9*, dock and undock; paint, and routine docking repairs; craneboat *Hercules*, dock and undock; clean and paint; renew bad order fender; steamships *Radnor*, repair steering engine steam line, feed pump, and feed water heater; remetal L. P. guide shoes on main engine; *Tulsagas*, repair main circulating engine and pump.

PREVIOUSLY REPORTED.

U. S. submarines *O–2*, dock and undock; painting and routine docking repairs; *O–7*, dock and undock; painting and routine docking repairs; steamship *Colon*, reboilering and general overhauling; barge *No. 131*, dock and undock; paint and perform miscellaneous repairs and alterations.

The following vessels were at the Cristobal shops for repairs during the week ended July 16:

Tug *Coco Solo*, renew woodwork on water tanks; make 2 water tanks as directed; calk under stuffing box; renew larboard strake; renew 6 inch by 8 inch timbers in forward hold; renew and replace ribs; calk fender seams and renew fender strap; *Favorite*, install new set of metallic packing on testing rods; line up dynamo engine crank shafts; install 2 oil heaters; renew bilge pump discharge pipe; repair top lifting straps; make windlass engine thrust ring; renew and retop holes and calk inside boiler (anchoring bridge uptake), and drill old studs; make new ventilator cowl; blank off and repair 2 air ports; repair sea valves; install free rollers in forward deck chock and electric weld chocks where worn; make pump foundation; install angle iron in chain locker; install free roller in port dairts; steamships *Acajutla*, make 1 set of crosshead brasses; repair steering chains; repair 3 copper pipes; renew possible plugs in boiler; renew brickwork under boilers; renew lagging bands on starboard boilers; repair 2 water cans; repair galley bunkers; repair life boat davit; supply compressed air to boilers; fit new keys to 2 doors; *Ulysses*, make H. P. piston rings; repair steering engine; clean condenser; make one ½ inch flanged valve; dress 15 wrenches and repair 4 pneumatic hammers; renew bilge pipe fittings; repair copper suction pipe on feed pump; make one ½ inch nipple; make 12 wedges; make two 7 inch flanges; repair 10 bootlegs; renew hatch covers; clean, scale and paint No. 2 hold; clean and scale No. 3 hatch covers; *Cristobal*, make 2 safety valve stems; dress faces of turning wheel on main shaft of jacking engine; fit new key and reassemble with fitted distance pieces; make and install 2 new line bilge pumps renew exhaust suction on anchor windlass; repair kitchen sanitary line; furnish 2 brass sheeves and 1 brass billet, and 2 brass valve discs; repair operating gear for sky lights; repair covering on deck pipe lines; repair exhaust ventilator; repair main deck pipe guards; repair No. 5 bilge suction pipe; calk saloon deck; scale and paint pockets on No. 2 'tween decks; U. S. Navy coal barge *No. 472*, drydock; stage, scrape, wire-brush, and paint bottom; paint upper part; tug *Engineer*, launches *Activo* and *Dorothy*, steamships *St. Joseph*, *Huallaga*, *Hodges*, and *Thordis*, minor repairs.

THE PANAMA CANAL RECORD

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July Transits Establish New Record; Tolls for Month, $2,124,429.57.

The number of commercial vessels transiting the Canal, and the amount of revenue therefrom collected in tolls, for the month ending July 31, were the greatest of any month during the operation of the Canal.

The total commercial transits during the month numbered 474, which exceeds by 55 the former record of 419 commercial transits in May, 1923. In addition to the commercial transits, there were 9 transits of small launches on which tolls were paid but which are not taken up in the commercial traffic, and 18 transits of Government vessels on which no tolls were paid, making the total transits for the month 501, or an average of 16.16 per day. This is 20 less transits than for the month of March, 1923, when 521 vessels transited the Canal, of which only 409, however, were commercial vessels.

Tolls for the month aggregated $2,124,410.32 on the 474 commercial vessels and $19.25 on the 9 launches, making a total of $2,124,429.57 or an average of $68,529.99 per day.

The detail of the month's traffic, segregated by directions, was as follows:

	Transits.				Tolls.		
	Commercial.	Launches	Government.	Total.	Commercial.	Launches	Total.
Atlantic to Pacific	255	6	13	274	$1,025,510.88	$14.75	$1,025,525.63
Pacific to Atlantic	219	3	5	227	1,098,899.44	4.50	1,098,903.94
Totals	474	9	18	501	2,124,410.32	19.25	2,124,429.57

The following tabulation shows the monthly totals, and the daily averages of transits and tolls during the current calendar year, for commercial vessels only:

	Aggregate monthly.		Daily average.	
	No. of transits.	Tolls.	No. of transits.	Tolls.
January	352	$1,505,285.55	11.35	$48,557.60
February	326	1,423,954.21	11.64	50,855.51
March	409	1,827,718.44	13.20	58,958.66
April	404	1,878,938.15	13.47	62,631.27
May	419	1,972,216.04	13.52	63,619.87
June	417	1,898,043.80	13.90	63,268.13
July	474	2,124,410.32	15.29	68,529.36

The average amount of tolls paid by each commercial vessel transiting the Canal during the month was $4,481.88.

Quick Job of Cleaning and Painting.

The steam yacht *Casiana*, 254 feet in length by 33 feet beam, of 1,227 gross tons, Panama Canal measurement, was dry docked at Balboa, cleaned and painted and released from dry dock in 6 hours on July 28. Three hours were required for unwatering and flooding the dock and the time of actual work on the hull of the vessel was 3 hours. At the same time some repairs were made to the propeller, straightening the tips. After the hull was cleaned, 2 coats of paint were applied. Part of the work was performed after dark. The yacht cleared for Los Angeles that night, leaving the outer channel at 9.40 p. m.

Those on board the *Casiana* expressed themselves as surprised and delighted with the expedition with which the vessel was handled. The *Casiana* belongs to Mr. E. L. Doheny. She has made 2 trips through the Canal, first on March 25, 1923, on the way from Los Angeles to Key West, and on her return on July 27, bound from New York, via La Guira, to Los Angeles.

Crude Oil Shipments Through the Panama Canal from January, 1922, to June, 1923.

There is published on pages 675 and 679 a statistical statement showing the volume of crude oil shipped through the Panama Canal during the 18 months from January, 1922, to June, 1923, its origin and destination.

Crude oil has been for some years an important commodity in Panama Canal traffic, but whereas the movement was formerly from the Gulf ports of Mexico and the United States to the Pacific, this east-to-west movement has declined during the period under review, and oil is now being shipped in the opposite direction from two new fields, one in Southern California and the other in Peru. Shipments from Peru began in November, 1921, and from California in October, 1922.

The aggregate tonnage of oil shipped through the Canal from the east coast of Mexico from January to June, 1922, was 241,330 tons; from July to December, 1922, 137,598 tons; and from January to June, 1923, 124,279 tons. The corresponding figures for crude oil shipments from Gulf and Atlantic ports of the United States were 20,591 tons, 6,879 tons, and 15,843 tons. The decline is marked.

Peruvian crude oil shipments totaled 62,389 tons from January to June, 1922; 97,371 tons from July to December, 1922, and 142,380 tons from January to June, 1923.

The figures for California crude oil were 32 tons from January to June, 1922; 357,456 tons from July to December, 1922; and 3,331,593 tons from January to June, 1923.

In June, 1923, crude oil shipments from Pacific to Atlantic represented approximately 60 per cent of all cargo moving through the Canal in that direction.

Eighty-three per cent of the eastbound crude oil is destined for Atlantic ports in the United States, and the remainder for eastern Canada, the continent of Europe, the British Isles, Cristobal, C. Z., and the West Indies. Since March, 1923, although Mexico continues to export oil, there have been occasional cargoes of California oil each month consigned to the east coast of Mexico.

Eighty-six per cent of the westbound crude oil is now routed to the west coast of South America, and there are infrequent shipments to Balboa, C. Z., Central America, the Far East, and Australasia.

Crude Oil Shipments Through the Panama Canal from January, 1922, to June, 1923.

ATLANTIC TO PACIFIC.

	Tons of Cargo from—							Tons of Cargo to—							
	West Indies.	Mexico, East Coast.	Cristobal, C. Z.	Other European.	British Isles.	East Coast, United States.	Total, from Atlantic ports.	South America, West Coast.	United States, West Coast.	Far East.	Australasia.	Canada, West Coast.	Central America, West Coast.	Balboa, C. Z.	Mexico, West Coast.
1922.															
Jan.	8,000	54,675	50	....	....	3,137	65,862	37,169	....	3,000	170	15,000	....	10,523	....
Feb.	....	41,737	....	....	18	....	41,755	27,055	....	8,000	....	....	....	6,700	....
March	....	31,582	....	....	110	9,812	41,504	19,110	....	8,994	1,600	....	....	8,000	3,800
April	....	29,100	4	....	57	673	29,834	19,661	....	673	....	....	....	9,500	....
May	....	41,748	....	....	....	100	41,848	37,061	100	....	....	....	4,687	....	....
June	....	42,488	....	5	....	6,869	49,362	29,893	....	200	307	....	....	15,962	3,000
½-year.	8,000	241,330	54	5	185	20,591	270,165	169,949	100	20,867	2,077	15,000	4,687	50,685	6,800
Fiscal yr.	15,943	412,809	141	5	205	57,295	486,398	238,331	31,721	62,903	5,523	30,000	14,092	93,828	10,000
July	....	34,648	....	....	....	395	35,043	28,765	150	70	....	....	....	6,058	....
Aug.	....	42,800	....	....	189	2,330	45,319	42,800	....	1,180	1,339	....	....	....	....
Sept.	....	7,823	....	....	....	226	8,049	8,049	....	....	....	....	....	....	....
Oct.	....	25,679	....	....	....	92	25,771	18,771	....	7,000	....	....	....	....	....
Nov.	....	17,205	....	....	....	3,636	20,841	17,205	....	....	....	....	....	3,636	....
Dec.	....	9,443	....	60	....	200	9,703	9,703	....	....	....	....	....	....	....
½-year.	....	137,598	....	60	189	6,879	144,726	125,293	150	8,250	1,339	....	....	9,694	....
Cal. yr.	8,000	378,928	54	65	374	27,470	414,891	295,242	250	29,117	3,416	15,000	4,687	60,379	6,800
1923.															
Jan.	....	19,336	....	3	30	6,553	22,922	19,479	15	150	....	15	3	6,260	....
Feb.	....	19,196	....	....	....	257	19,453	19,346	62	....	45	....	....	....	....
March	....	14,045	....	....	....	101	14,146	9,500	....	....	101	....	4,545	....	....
April	....	34,033	....	....	....	656	34,689	34,079	....	610	....	....	....	....	....
May	....	18,318	....	....	....	40	18,358	18,318	....	40	....	....	....	....	....
June	....	19,351	....	10	10	8,236	27,607	19,587	20	....	....	....	....	8,000	....
½-year.	....	124,279	....	13	40	15,843	140,175	120,309	97	800	146	15	4,548	14,260	....
Fiscal yr.	....	261,877	....	73	229	22,722	284,901	245,602	247	9,050	1,485	15	4,548	23,954	....

(This table continued on page 679.)

Dollar Line to Increase Intercoastal Fleet.

It is reported that all of the large American steamers of the Robert Dollar Company will be assigned to the United States intercoastal trade, and that a regular coast-to-coast service will be maintained with frequent sailings.

The steamers *Margaret Dollar*, *Stanley Dollar*, and *Melville Dollar* have been operating in the intercoastal trade for some time, while the steamers *Diana Dollar* and *Stuart Dollar* have been operated in a round-the-world service. With the assignment of the two latter vessels to the intercoastal run, it is announced that a 3-weekly service will be maintained.

Two Lake-Type Steamers Transit Canal.

The steamers *Juvigny* and *Romagne*, owned by the Independent Steamship Company, and operated by the Lind Navigation Co. transited the Canal on July 2 and 15, respectively. Both are "lake-type" steamers, the former built by the Detroit Shipbuilding Co. and the latter by the American Shipbuilding Co. of Cleveland.

They carried cargoes of sulphur on their westbound trip and will probably enter the coastal trade, transporting lumber from Puget Sound to Californian ports.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 28, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Saint Jean	21	5.51	22	5.55	22	13.30	22	14.38	French	French Line	397.0	50.3	19.4	Bordeaux	Valparaiso	General	1,533	5,849	4,081
F. Q. Barstow [1]	21	14.34	22	6.17	22	14.08	22	15.13	American	Standard Oil Co	500.0	68.2	18.0	Baltimore	San Pedro	Ballast		10,530	7,604
Harold Walker [1]	21	15.02	22	7.33	22	15.02	22	16.05	American	Pan-American Petroleum Co	430.0	58.0	21.0	New York	Los Angeles	Ballast		6,973	4,658
Denderah	21	9.05	22	7.55	22	15.18	22	16.25	German	Kosmos Line	360.0	51.0	18.1	Hamburg	Salina Cruz	General	702	4,924	3,524
Limicana [1]	21	14.45	22	8.05	22	16.00	23	1.20	British	Anglo-Saxon Petroleum Co	379.0	52.0	19.0	Las Palmas	Los Angeles	Ballast		6,109	4,117
Lancaster	22	3.15	22	8.40	22	17.31	23	10.17	American	Argonaut Steamship Line	434.3	57.7	26.0	New York	San Francisco	General	9,148	7,943	5,872
Aansaldo San Giorgio III	20	20.37	22	9.20	22	17.29	23	3.00	Italian	Transatlantica Italiana	385.7	51.7	15.6	Genoa	Valparaiso	General	1,011	5,759	4,013
Victoria Maru	22	9.20	22	10.35	22	18.26	23	1.07	Japanese	Kokusai Kisen Kaisha	385.0	51.0	11.0	New York	Valparaiso	Ballast		6,250	4,700
Huallaga	15	19.25	22	10.50	22	19.21	22	20.24	Peruvian	Peruvian Line	360.0	44.7	20.2	Cristobal	Buenaventura	General	212	4,514	2,386
Basford [2]	22	1.15	22	8.35	22	15.03	23	15.00	American	Sante Fe Railroad (S. B.)	142.0	27.7	17.0	Galveston	San Francisco	Ballast		444	120
Steel Inventor	22	16.50	23	6.12	23	13.26	23	18.44	American	U. S. Steel Products Co	421.2	56.2	24.0	Baltimore	Los Angeles	(6)	7,047	7,611	5,450
Point Loma	22	10.55	23	7.10	23	16.57	26	2.09	American	Hartwood Lumber Co	251.0	43.5	19.0	Mobile	San Francisco	General	2,600	2,230	1,441
Craster Hall	22	18.35	23	7.15	23	15.05	23	16.10	American	U. S. Steel Products Co	380.0	50.0	24.6	Baltimore	Seattle	(7)	5,857	4,945	3,508
J.A.Moffett,Jr. [1]	22	23.35	23	7.55	23	15.56	23	17.00	American	Standard Oil Co	499.0	68.0	21.0	New York	San Pedro	Ballast		11,037	7,995
Byron D. Benson [1]	23	1.00	23	8.28	23	16.37	23	17.30	American	Tidewater Oil Co	465.4	60.2	20.0	New York	San Pedro	Ballast		8,546	6,095
Arator [3]	23	7 40	23	12.10	23	20.28	25	12.35	Swedish	Svenska Lantmannens Rederi	367.0	51.3	25.3	Christiania	Portland	General, cement	6,983	5,448	3,967
Steel Exporter	23	13.05	23	13.10	23	21.13	24	1.28	American	U. S. Steel Products Co	424.2	56.2	27.0	New York	Vancouver	General	8,397	7,611	5,450
Dicto	23	13.20	23	13.30	23	22.02	23	23.31	Norwegian	B. Stolt Nielsen & Co	341.2	48.3	19.6	Norfolk	Santa Rosalia	Coal	2,997	4,369	3,180
Choyo Maru	23	6.53	24	6.10	24	13.30	24	15.00	Japanese	Toyo Kisen Kaisha	400.0	53.0	14.3	Liverpool	Caleta Colosa	Ballast		6,186	4,457
Birkenhead	23	6.42	24	7.25	24	14.52	24	17.55	American	Vacuum Oil Co	425.0	57.2	17.0	Philadelphia	San Pedro	Ballast		7,502	4,982
Shreveport [1]	23	16.47	24	8.08	24	15.28	24	16.30	American	Walker & Daly (S. B.)	435.0	56.0	22.0	New York	San Pedro	Ballast		7,411	5,103
Samuel Q. Brown [1]	24	5.25	24	8.40	24	15.43	24	16.55	American	Tidewater Oil Co	424.0	58.0	19.0	New York	Los Angeles	Ballast		7,333	5,246
Eurana [1]	24	7.35	24	9.10	24	16.15	24	17.18	American	New York Shipbuilding Co	419.3	56.3	19.0	New York	San Pedro	Ballast		6,989	4,976
Megna	24	6.47	24	10.00	24	17.18	24	18.25	British	James Nourse, Ltd	421.0	56.0	26.1	Pt. of Mexico	Brisbane	General	7,606	6,313	4,558
S-34 [4]			25	6.35	25	12.30	25	16.15	American	U. S. Navy	209.0	19.0		Cristobal	Balboa	Ballast			
S-35 [4]			25	6.35	15	12.30	25	16.15	American	U. S. Navy	209.0	19.0		Cristobal	Balboa	Ballast			
Balboa	21	22.55	25	7.35	25	14.27	25	15.35	Colombian	Comp. Colombiana de Vapores	190.0	29.1	13.1	Cristobal	Buenaventura	General	80	737	335
Talamanca [5]			25	7.57	25	13.30			Panaman	United Fruit Co	58.3	16.4		Gatun Lake	Balboa	Ballast		40	27
Santa Clara	25	10.06	25	10.20	25	17.33	25	18.25	American	Atlantic & Pacific Steamship Co	404.6	53.9	24.6	Baltimore	Puget Sound	General	5,166	6,760	4,450
Aladdin [1]	25	10.33	25	10.48	25	18.19	25	19.00	American	Standard Transportation Co	435.0	58.0	18.0	Providence	San Pedro	Ballast		7,408	5,112
Tongking [3]	22	20.30	25	12.05	25	19.33	25	20.32	Danish	East Asiatic Co	398.2	53.6	27.10	Copenhagen	Vancouver	(8)	9,472	7,013	5,317
Joseph M. Cudahy [1]	25	13.55	25	14.05	25	20.30	25	21.30	American	Sinclair Navigation Co	430.2	59.2	20.0	New Orleans	Los Angeles	Ballast		7,954	5,842
Katrina Luckenbach	25	16.55	26	6.25	26	14.07	26	23.23	American	Luckenbach Line	446.0	56.0	21 0	Mobile	Seattle	General	9,154	8,508	6,179

[1] Tanker. [2] Tug. [3] Motor ship. [4] Submarine. [5] Motor schooner. [6] Steel, tin plates, and general. [7] Structural steel, iron pipes, and tin plates. [8] Steel rails, rags, and general.

Chaumont [9]	25	7.12	26	7.24	26	14.47	28	11.21	American	U. S. Navy	448.0	58.2	23.11	New York	Seattle	([12])	279			
Paparoa	25	6.35	26	7.55	26	16.06	26	23.09	British	New Zealand Shipping Co	430.0	54.0	29.4	Liverpool	Auckland	General	5,644	8,209	6,121
City of Lincoln	25	10.50	26	8.25	26	16.53	26	17.45	British	Ellerman & Bucknell	418.0	53.0	20.7	Norfolk	Los Angeles	General	4,499	7,011	5,280
Edward Luckenbach	26	2.40	26	9.18	26	17.52	26	18.50	American	Luckenbach Line	437.0	57.0	30.0	New York	Los Angeles	General	9,888	8,543	6,427
Spreewald [10]	25	21.43	26	9.42	26	18.32	27	1.52	German	Hamburg-American Line	399.0	54.0	19.0	Hamburg	Valparaiso	General	4,500	6,791	4,997
Corinto	17	15.20	26	9.52	26	19.40	27	8.35	American	Pacific Mail Steamship Co	261.1	49.0	16.7	Cristobal	San Francisco	General	1,906	2,403	1,560
Orleans	26	8.43	26	10.20	26	20.30	27	3.56	American	Oriental Navigation Co	395.0	55.0	26.0	Norfolk	Pearl Harbor	Coal	9,050	7,330	5,233
Scottsburg	26	8.55	26	11.10	26	21.20	27	8.30	American	Barber Line (S. B.)	419.0	56.0	27.0	New York	Honolulu	General, case oil	8,009	8,696	6,316
Celtic Prince	26	6.52	26	11.48	26	22.12	26	23.07	British	Prince Line	449.5	57.3	28.1	New York	Yokohama	General, pet	6,265	8,699	6,208
Storviken	26	6.24	27	6.30	27	14.57	27	15.50	Norwegian	H. Wallim	380.0	53.0	15.0	Newcastle	Portland	Ballast		5,342	3,826
Casiana [11]	26	16.55	27	6.40	27	15.34	28	23.17	American	E. L. Doheny	254.0	33.0	16.0	LaGuayra	Los Angeles	Ballast		1,197	477
Ramsay	26	16.00	27	7.35	27	16.28	27	17.35	British	Bolton Steamship Co	400.0	52.0	14.0	Philadelphia	Caleta Colosa	Ballast		5,666	3,915
Buenos Aires [10]	26	23.05	27	8.27	27	17.20	28	11.43	Swedish	Johnson Line	426.0	56.0	25.6	Gothenborg	San Francisco	([13])	8,509	7,591	5,660
Cecil County [1]	26	20.25	27	8.50	27	17.25	27	19.04	American	Walker & Daly (S. B.)	431.0	59.2	18.10	New York	San Pedro	Ballast		8,097	5,261
Corinthic	27	5.15	27	9.10	27	18.15	28	2.00	British	Oceanic Steam Navigation Co	500.0	63.0	24.8	London	Wellington	General	3,143	12,821	9,507
Eastern Knight	27	10.30	27	10.45	27	19.10	28	0.59	American	Colombia Pacific Steamship Co	415.0	55.7	27.2	Baltimore	Los Angeles	General, steel	9,400	7,643	5,657
Singapore Maru	27	17.30	28	6.35	28	13.55	28	16.35	Japanese	Kokusai Steamship Co	385.0	51.0	23.6	Pensacola	Yokohama	General	5,729	5,914	4,389
Steelore	28	7.33	28	8.10	28	16.17	29	0.37	American	Ore Steamship Co	550.3	72.2	24.0	Baltimore	Cruz Grande	Ballast		15,551	4,297
Commercial Spirit	28	10.45	28	10.55	28	17.42	28	23.05	American	Moore & McCormack	380.4	53.1	23.8	Norfolk	Seattle	General, steel	5,773	5,659	4,138
D. G. Schofield [1]	28	12.57	28	13.05	28	19.14	28	20.12	American	Standard Oil Co	439.5	58 0	21.0	New York	Los Angeles	Ballast		8,698	6,040

[1] Tanker. [9] Transport. [10] Motor ship. [11] Yacht. [12] Army and Navy stores. [13] Cement, paper, pulp, and general.

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.

Middlesex	21	14.00	22	7.02	22	14.40	22	16.25	British	Federal Steam Navigation Co	460.0	62.8	22.0	Auckland	Boston	Frozen, general	4,076	10,599	7,641
I. C. White [1]	21	15.51	22	8.00	22	15.20	22	15.20	American	Pan-Amer. Pet. & Transp. Co	429.3	59.2	28.8	San Pedro	New Orleans	Crude oil	10,924	7,925	5,840
Santa Rosa	21	17.00	22	8.43	22	15.40	22	15.40	American	Pacific Mail Steamship Co	404.0	53.9	27.0	San Francisco	New York	([14])	7,020	6,754	4,780
San Lorenzo [1]	21	17.20	22	8.52	22	17.20	22	17.20	British	Eagle Oil Transport Co	527.2	66.6	28.9	San Pedro	Tuxpan	Crude oil	16,000	12,116	9,022
Oriana	22	3.00	22	9.36	22	17.40	22	21.15	British	Pacific Steam Navigation Co	465.7	56.2	23.0	Coronel	Liverpool	General	4,098	8,620	5,345
Robin Goodfellow	22	8.30	22	10.04	22	18.30	22	18.30	American	Seas Shipping Co	424.8	55.2	21.0	Tacoma	Boston	General	5,441	7,473	5,535
Venice Maru	22	10.45	22	14.23	22	22.05	22	22.05	Japanese	M. Kataoka	405.0	53.0	27.6	Junin, Chile	New Orleans	Nitrate of soda	9,033	7,025	5,025
Alkmaar	22	18.00	23	7.44	23	15.33	24	0.02	Dutch	Royal Netherlands W. I. Mail	447.0	62.7	26.6	Bahia de C'r'z	Liverpool	General	10,000	9,505	6,644
Algonquin [1]	22	18.20	23	8.10	23	17.00	23	17.00	American	Standard Transp. Co. of Del	435.0	56.0	27.0	Los Angeles	New York	Crude oil	9,440	7,602	5,337
American	22	10.55	23	9.00	23	17.30	23	17.30	American	American-Hawaiian Line	406.8	51.1	24.9	Los Angeles	Philadelphia	Lumber, general	6,242	5,918	4,112
Santa Luisa	23	11.10	23	12.57	23	18.45	23	22.50	American	Grace Line, Inc	360.2	51.6	23.6	Talcahuano	New York	([15])	3,608	5,694	3,975
Bethelridge [1]	18	6.30	23	13.47	23	21.05	23	21.05	American	Walker & Daly (S. B.)	431.0	59.2	25.6	San Pedro	New York	Crude oil	9,382	7,819	5,094
Rotarian	23	15.30	24	6.55	24	14.18	24	14.18	American	Wessel, Duval & Co. (S. B.)	380.0	53.1	23.8	Iquique	New York	Nitrate of soda	6,747	5,660	4,059
Atto	24	2.15	24	8.05	24	15.45	24	17.55	German	Roland Line	360.6	51.0	23.0	Valparaiso	Antwerp	Nitrate, cotton	5,790	4,805	3,400
El Oso [1]	24	4.00	24	9.28	24	16.45	24	17.45	British	C. T. Bowring Co., Ltd	440.5	57.6	26.6	San Pedro	Tampico	Crude oil	9,453	7,478	5,040
Agwilake [1]	24	4.30	24	11.18	24	18.50	24	18.50	American	Ward Line	468.3	62.7	28.0	San Pedro	Boston	Crude oil	12,100	9,802	6,957
Willfaro	25	6.00	25	7.39	25	14.20	25	14.20	American	Williams Steamship Co	386.8	52.2	24.6	San Francisco	New York	General, lumber	4,070	5,684	4,113
Manuel Arnus	25	7.30	25	9.25	25	16.15	27	18.00	Spanish	Compania Trasatlantica	435.0	56.0	19.0	Valparaiso	Barcelona	General	33	7,732	5,518
Agwisea [1]	25	12.15	25	11.05	25	19.15	25	19.15	American	Ward Line	468.3	62.7	29.0	Los Angeles	New York	Crude oil	12,664	9,802	6,961
Swifteagle [1]	24	23.30	25	11.38	25	20.23	25	21.32	American	C. D. Mallory	464.6	60.2	28.0	San Pedro	Fall River	Crude oil	12,000	8,473	5,997

[1] Tanker. [14] Lumber, copper, shingles, and general [15] Copper, nitrate, cotton, borax, etc.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Stanley Dollar	25	14.15	25	15.03	25	22.15	26	8.10	American	Dollar Line	401.4	54.0	.....	San Francisco	Baltimore	General	6,000	6,598	4,704
Tuscaloosa City	25	6.00	25	15.12	25	22.53	25	22.53	American	Isthmian Steamship Line	424.2	56.2	22.0	San Francisco	Boston	(17)	5,542	7,611	5,450
Deroche [1]	25	14.00	26	6.55	26	15.00	26	15.00	American	Union Oil Co	435.0	56.0	30.0	San Pedro	Baltimore	Crude oil	10,500	7,452	5,199
Bologna	25	24.00	26	8.14	26	15.25	28	17.12	Italian	Italian Line	336.0	47.0	18.0	Valparaiso	Genoa	General	406	5,531	3,774
Kentuckian	26	2.00	26	9.02	26	16.07	26	16.07	American	American-Hawaiian Line	414.5	53.7	24.0	Tacoma	Boston	General	5,600	7,049	4,941
Rio Blanco	26	7.00	26	9.24	26	17.26	26	17.26	British	Thompson Shipping Co	362.7	53.2	24.0	Saigon	Habana	Rice	6,800	5,034	3,466
Halsey [1]	26	8.50	26	12.48	26	10.33	26	22.33	American	C. D. Mallory & Co	435.0	56.0	27.10	San Pedro	Baltimore	Crude oil	11,253	7,642	5,324
Chilore [1]	26	5.40	26	15.00	27	16.47	27	16.47	American	Ore Steamship Corp	549.6	72.2	32.3	Cruz Grande	Baltimore	Iron ore	19,700	14,538	9,348
Victorious	25	21.10	27	7.25	27	17.35	28	1.05	American	TampaInterocean Steamship Co.	336.0	56.0	30.6	Saigon	New York	General	10,000	8,328	6,036
O-2 [16]	6-10	13.30	27	7.28	27	16.50	.....	.....	American	U. S. Navy	.....	.....	.....	Balboa	Cristobal	.....	.....	.....	.....
Calgarolite [1]	26	23.30	27	8.05	27	17.40	27	17.40	British	Imperial Oil Co., Ltd	463.3	60.2	27.2	Talara	New York	Crude oil	10,400	8,491	6,096
John Worthington [1]	27	2.00	27	8.50	27	18.18	27	22.40	American	Standard Oil Co. of N. J	464.4	60.2	28.0	San Pedro	Charleston	Crude oil	11,830	8,491	6,096
Delaware Sun [1]	27	3.00	27	9.50	27	18.53	27	18.53	American	Sun Oil Co	480.5	66.0	28.6	San Pedro	Philadelphia	Crude oil	13,500	9,402	6,585
Vermont	27	3.00	27	10.48	27	20.15	28	2.40	French	French Line	400.0	52.0	26.0	Vancouver	Havre	General	7,046	5,822	4,187
Sunbeam [1]	27	7.30	27	11.32	27	21.03	28	3.30	American	Sun Oil Co	429.3	59.2	27.0	Los Angeles	New York	Crude oil	10,600	7,709	5,481
Stanley	27	13.35	27	14.30	27	22.00	27	22.00	American	Barber Steamship Line (S. B.)	401.7	54.8	26.0	Cebu	New York	(18)	8,471	6,933	5,187
Gen. Geo. W. Goethals	27	18.00	28	7.12	28	14.30	29	20.55	American	Panama Railroad S. S. Line	353.0	48.7	17.0	Guayaquil	New York	(19)	904	5,226	3,617
S. B. Hunt [1]	27	22.00	28	7.59	28	16.03	28	16.03	American	Standard Oil Co. of N. J	429.3	59.2	28.0	San Pedro	New York	Crude oil	11,150	7,652	5,522
Sydney M. Hauptman	28	5.30	28	8.53	28	16.28	29	6.12	American	McCormick Steamship Line	401.45	53.2	23.6	Seattle	New York	Lumber	7,600	7,082	5,167
Bohemian Club [1]	28	7.50	28	10.03	28	19.12	28	19.12	American	Atlantic Refining Co	425.0	57.2	27.8	San Pedro	Philadelphia	Crude oil	10,200	7,204	4,769
Ucayali	28	8.15	28	11.07	28	18.30	.....	.....	Peruvian	Peruvian Line	374.7	46.3	20.0	Callao	Cristobal	General	1,612	4,466	2,405

[1] Tanker. [16] Submarine. [17] Lumber and canned goods. [18] Sugar, hemp, bamboo, copra, etc. [19] Coffee, cocoa, tagua, hides, hats, and rubber.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
July 22	Atenas	United Fruit Co	New Orleans via Habana.
July 22	Toloa	United Fruit Co	Port Limon.
July 23	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
July 23	Robin [19]	U. S. Navy	Norfolk.
July 24	Calamares	United Fruit Co	New York via Habana.
July 24	San Blas	United Fruit Co	Boston via Habana.
July 24	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.

[19] And barge. [20] Transport.

*DEPARTURES.

Date.	Vessel.	Line.	For—
July 22	Toloa	United Fruit Co	New York via Habana.
July 22	Chateau Thierry [20]	U. S. Army	Norfolk.
July 23	St. Mihiel [20]	U. S. Army	New York.
July 23	Atenas	United Fruit Co	Bocas del Toro.
July 25	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.
July 25	San Blas	United Fruit Co	Boston via Port Limon and Jamacia.

(Continued on page 684, column 2.)

Crude Oil Shipments Through the Panama Canal from January, 1922, to June, 1923.
PACIFIC TO ATLANTIC.—Continued from page 675.

	Tons of Cargo from—					Tons of Cargo to—						
	Australasia.	Far East.	West coast, United States.	West Coast, South America.	Total, from Pacific ports.	East Coast, United States.	British Isles.	Other European.	Cristobal, C. Z.	East Coast of Canada.	West Indies.	East Coast of Mexico.
1922.												
January	....	....	....	....	....	....	....	....	....	....	....	....
February	....	....	....	10,505	10,505	....	10,479	....	26	....	....	....
March	....	....	....	8,907	8,907	8,907	....	....	....	....	....	....
April	5	....	....	10,172	10,177	10,172	5	....	....	....	....	....
May	....	....	....	19,264	19,264	8,900	....	10,364	....	....	....	....
June	....	....	....	13,541	13,541	13,541	....	....	....	....	....	....
½-year	5	....	....	62,389	62,394	41,520	10,484	10,364	26	....	....	....
Fiscal year	5	1,779	32	93,158	94,974	69,293	10,568	15,087	26	....	....	....
July	....	....	....	23,353	23,353	13,001	....	10,352	....	....	....	....
August	....	....	....	17,343	17,343	17,343	....	....	....	....	....	....
September	....	....	58,066	7,300	65,366	35,133	....	....	6,050	....	24,183	....
October	....	....	75,915	18,010	93,925	82,075	....	....	4,500	....	7,350	....
November	....	....	80,847	15,138	95,985	64,292	....	16,555	....	....	15,138	....
December	....	....	142,628	16,227	158,855	136,172	7,590	6,903	....	....	8,190	....
½-year	....	....	357,456	97,371	454,827	348,016	7,590	33,810	10,550	....	54,861	....
Calendar year	5	....	357,456	159,760	517,221	389,536	18,074	44,174	10,576	....	54,861	....
1923.												
January	....	....	151,662	7,638	159,300	129,860	....	14,880	6,922	....	7,638	....
February	....	....	255,775	50,328	306,103	268,229	....	....	58	14,770	23,046	....
March	....	....	507,116	16,152	523,268	487,307	....	7,574	7,450	....	5,700	15,237
April	....	....	736,735	8,065	744,800	635,414	8,880	8,065	....	24,655	9,450	58,336
May	....	....	845,201	26,210	871,411	724,919	9,621	....	4,466	23,514	14,579	94,312
June	....	....	835,104	33,987	869,091	694,698	26,160	....	10,031	15,000	14,110	109,092
½-year	....	....	3,331,593	142,380	3,473,973	2,940,427	44,661	30,519	28,927	77,939	74,523	276,977
Fiscal year	....	....	3,689,049	239,751	3,928,800	3,288,443	52,251	64,329	39,477	77,939	129,384	276,977

Munson-McCormick Line Inaugurates Puget Sound-Cuba Service.

The passage of the steamship *Glyndon* on July 3, en route from Freeport, Tex. to San Francisco, with a full cargo of sulphur, and the transit of the steamship *Redbird* on July 5, with a full cargo of lumber, en route from Port Ludlow, Wash., to Neuvitas, Cuba, marked the beginning of a new service through the Panama Canal.

These two vessels are operated by the Munson-McCormick Line, which has announced that it will maintain a regular service between Cuba and Puget Sound ports. While general cargo offerings will be accepted, the new service will depend chiefly on full cargoes of lumber eastbound and sulphur westbound. The westbound trip will be via one of the Texas ports in order to pick up the sulphur cargo.

In addition to the above service, the Munson-McCormick Line is operating 7 steamers in the United States intercoastal trade.

Williams Steamship Line Expanding Intercoastal Service.

The addition of 2 new steamers to be operated in the intercoastal run, and a schedule providing for fortnightly sailings has been announced by the Williams Steamship Co.

One of the new steamers placed in this run is the steamship *Allaguash*, formerly the British steamer *Rygja*, which transited the Canal July 19, carrying 5,000 tons of general cargo, en route from New York to Tacoma.

The additional 2 steamers will give the Williams Line 7 vessels operating in the intercoastal trade.

Furness Prince Line to Assign Fast Steamers to European-Pacific Coast Trade.

The steamship *Northwestern Miller*, operated by the Furness Prince Line, transited the Canal July 9, having completed the voyage from Swansea in 16 days. The motor-ship *Dominion Miller*, another vessel of this company operated in the European-Pacific Coast trade through the Canal, also has a speed of 11 to 12 knots an hour.

Officials of the line have announced that beginning in September and continuing at least until the end of the year, a fortnightly service will be maintained between Europe and north Pacific coast ports.

It is also announced that some of the finest freighters owned by this company will be diverted to the Pacific coast trade, among which are the steamers *London Merchant* and *London Shipper*, capable of making 15 knots an hour. These 2 vessels are being withdrawn from the New York-London service for the Pacific coast run. They are equipped with both fan ventilation and cool-air refrigeration.

Large Shipment of Eggs.

Four thousand boxes, each containing 30 dozen eggs, numbering in all 1,440,000 fresh eggs, were one of the items of cargo carried by the steamship *Neponset*, which transited the Canal June 30, in the United States intercoastal trade. This is reported as the largest egg shipment to have been made by water over this route.

Other cold storage cargo carried by this vessel included 69 tons of frozen eggs, 70 tons of frozen poultry, 250 barrels of frozen berries, and consignments of reindeer meat, fish, and other refrigerator products.

Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended July 23:

Tug *Cocoli*, drydock; stage, scrape, wire-brush, and paint bottom; open up and examine the following: main engine; dynamo engine; main bearings; steering engine; reversing engine; general service pump; bilge pump; main feed pumps; fuel oil pumps; fresh water pump; main air pump; main circulating pump; fire pump, and capstan engine; rewood stern bushing; renew retain ring for ball bearing on after steering wheel; take down and test oil heater coils; repair and calibrate all steam and vacuum gauges; furnish pipe fitter for work as directed; overhaul boiler fittings; bush rudder pintles and post; renew all hull zincs; overhaul sea valves; repair floor plates and supports in engine room; calk deck; remove ballast from engine room for access to bilges; continuation of extensive repairs on barge *No. 21*, tug *Coco Solo*, launch *Birdena*, and submarine *O-3*; yacht *Sultana*, mineplanter *Graham*, steamships *Cape Cod*, *Ansaldo San Giorgio III*, *Balboa*, *Choyo Maru*, and *Cristobal*, minor repairs; tug *Cocoli* (additional); remove wild cat and gypsy head from windlass; fit 2 forecastle drains; alter position of fire nozzle on pilot house; alter pipe covering on main deck; renew bolts and rings for forward fender; repair wash plates in aft fresh water tanks; fit hooks on stem piece; take out stem nigger head; fit angle chafing pieces on forward rail; alter engine room skylight; install ice box and concrete floor beneath; make dining table; build new galley lockers; steamship *Salvador*, dock and undock; install propeller blades furnished by ship; make ballast pump strainers; repair hand pump; remake 4 mattresses and 2 cushions; make 6 oil burner strainers; make 1 butcher's block; repair side rail; repair gangway rail support; renew and tighten link-studs and shackle pins in anchor chain; scrape, wire brush, and paint bottom; Army tug *L-53*, dock and undock; overhaul stern bearings; repair copper sheathing; repair hull timbers; repair rudder and skeg; steamship *General W. C. Gorgas*, make 6 H. P. piston rings; repair holes in fire room

bunker bulkhead; repair fire room tools; repair 1 set steering chains; repair fire line; make and install eye bolts on deck; repair pipe casing; repair wheel house bulkhead; repair scupper pipe; repair ammunition house; burn paint from deck woodwork; launches *Doris*, *Margarita*, *Rodman*, *Birdena*; steamships *Hoxbar*, *Ucayali*, *General W. C. Gorgas*, *Cristobal*, *General G. W. Goethals*, *General O. H. Ernst*, *Gold Star*, *Venezuela*, *Paproa*, *Tongking*, *Corinto*, *Cecil County*, *Stor Viken*, *Ebro*, and *Albaro*, minor repairs.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Three Weeks Ending July 28, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo— Discharged	Cargo— Laded.
				Tons.	*Tons.*
Pastores	United Fruit Co	July 8	July 8	20	152
Manavi	Pacific Steam Navigation Co		July 8		273
Mantaro	Peruvian Line		July 8		296
Dorelian	Leyland Line		July 8		516
Colombia	Pacific Mail Steamship Line	July 8	July 9	628	168
Zacapa	United Fruit Co	July 8	July 9	185	286
Panama	Panama Railroad Steamship Line		July 9		1,812
Sicania	Italian Line		July 9		1,600
W. M. Irish	Atlantic Refining Co	July 8	July 9	598	(2)
Crynssen	Royal Netherlands W. I. Mail	July 8	July 10	444	(2)
Acajutla	Pacific Steam Navigation Co	July 9		69	
Santa Elisa	Grace Line	July 9	July 9	½	1
Ecuador	Pacific Mail Steamship Line	July 10	July 11	110	110
Ulua	United Fruit Co	July 10	July 11	291	57
San Benito	United Fruit Co	July 11	July 11	45	216
Sixaola	United Fruit Co	July 11	July 12	3	43
Carrillo	United Fruit Co	July 11	July 12	108	131
Parismina	United Fruit Co	July 11	July 12	1,100	46
Orita	Pacific Steam Navigation Co	July 11	July 12	20	2
Teno	Chilean Line	July 11	July 12	(1)	197
Zacapa	United Fruit Co	July 12	July 12	17	3
Camden	United Fruit Co	July 12		8,871	
Cristobal	Panama Railroad Steamship Line	July 13		1,825	
Santa Tecla	Grace Line	July 14		52	
Zacapa	United Fruit Co	July 8	July 9	185	286
Pastores	United Fruit Co	July 8	July 8	20	152
Crynssen	Royal Netherlands W. I. Mail	July 8	July 10	444	
Acajutla	Pacific Steam Navigation Co	July 8	July 20	69	991
Ecuador	Pacific Mail Steamship Co	July 10	July 11	110	113
Ulysses	Panama Railroad Steamship Line	July 10	July 20	[3] 12,056	
Ulua	United Fruit Co	July 10	July 11	291	57
Sixaola	United Fruit Co	July 11	July 12	3	43
Carrillo	United Fruit Co	July 11	July 12	108	131
Parismina	United Fruit Co	July 11	July 12	1,100	46
Orita	Pacific Steam Navigation Co	July 11	July 12	20	2
San Benito	United Fruit Co	July 11	July 11	45	216
Zacapa	United Fruit Co	July 12	July 12	17	3
Camden	United Fruit Co	July 12	July 15	8,861	
Capella [4]	U. S. Navy	July 12	July 14	120	
Cristobal	Panama Railroad Steamship Line	July 13	July 19	1,825	2,245
Saint Joseph	French Line	July 13	July 14	42	26
Santa Tecla	Pacific Mail Steamship Co	July 14	July 15	52	30
Atenas	United Fruit Co	July 22	July 23		169
Tonking	Japanese Steamship Co	July 22	July 23	200	
Toloa	United Fruit Co	July 22	July 22		92
Alkmaar	West India Oil Co	July 22	July 24	189	13
Balboa	Compania Costanera Colombiana	July 22	July 25	607	79
Gen. W. C. Gorgas	Panama Railroad Steamship Line	July 23	July 30	1,852	2,591
Heredia	United Fruit Co	July 24	July 26	1,351	
San Blas	United Fruit Co	July 24	July 25	4	89
Calamares	United Fruit Co	July 24	July 25	313	121
Oranje Nassau	Royal Netherlands W. I. Mail	July 24	July 25	121	
Metapan	United Fruit Co	July 25	July 26	91	238
Manuel Arnus	Spanish Line	July 25	July 27	7	71
Chaumont [5]	U. S. Navy	July 25	July 26	69	34
Tivives	United Fruit Co	July 25	July 26	2	74
Bologna	Italian Line	July 25	July 25	9	263
Victorious	Panama Agencies Co. (Agents)	July 25	July 27	400	800
Atenas	United Fruit Co	July 25	July 26	607	46
Buenos Aires	Panama Agencies Co. (Agents)	July 26	July 27	224	60
Vermont	French Line	July 27	July 27	7,682	76
Gen. G. W. Goethals	Panama Railroad Steamship Line	July 27	July 29	60	
Oranje Nassau	Royal Netherlands W. I. Mail	July 28	July 28	25	378

[1] No cargo discharged. [2] No cargo laded. [3] Coal. [4] Supply ship. [5] Transport.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Three Weeks Ending July 28, 1923.

Name of vessel.	Line or charterer.	Arrived.	Departed.	Cargo—	
				Discharged	Laded.
				Tons.	*Tons.*
Santa Maria	Santa Maria Steamship Co	July 8	July 8	10,500	
Acajutla	Pacific Steam Navigation Co	July 8	July 8	31	
Manavi	Pacific Steam Navigation Co	July 8	July 8		8
W. M. Irish	Atlantic Refining Co	July 9	July 10	598	
Ethan Allen	U. S. Shipping Board	July 9	July 9	296	
Ecuador	Pacific Mail Steamship Co	July 11	July 11	21	1
San Juan	Pacific Mail Steamship Co	July 8	July 8		1
Mantaro	Peruvian Line	July 8	July 8		17
Lirio de Agua	Alejandro Chamorra	July 9	July 10		156
Mina Brea	Imperial Oil Co	July 9	July 10		6
Lima	Johnson Line	July 14	July 15		70
Cherry Branch	Nautilus Steamship Co	July 14	July 19	720	
Capella [1]	U. S. Navy	July 14	July 17	20	
Almagro	Pacific Steam Navigation Co	July 15	July 15	7	
Corinto	Pacific Mail Steamship Co	July 16	July 17	15	
Memnon	U. S. Shipping Board	July 17	July 17	39	
Santa Ana	Grace Line	July 19	July 19		1
Laura C. Hall	Pacific Metals Corp	July 19	July 20		47
Acajutla	Pacific Steam Navigation Co	July 20	July 20		9
Utacarbon	Union Oil Co	July 20	July 20	11,243	
Acasta	Anglo-Saxon Petroleum Co	July 20	July 23	6,960	
Ansaldo San Giorgio III	Societa Nazionale di Navigazione	July 22	July 22	31	
Baja California	A. O. Lindvig	July 22	July 24	305	
Corinto	Pacific Mail Steamship Co	July 26	July 26		5
Victorious	U. S. Shipping Board	July 25	July 27	405	1
Chaumont [2]	U. S. Government	July 26	July 28	9	9
Buenos Aires	Johnson Line	July 27	July 28	55	

[1] Supply ship. [2] Transport.

Municipal Water Supply Line Across the Canal.

A 12-inch pipe line, laid in 1 piece 459 feet in length in a trench crossing the Canal at Paraiso, has been tested and found satisfactory in use.

In April of this year, the 20-inch pipe line crossing under the Pedro Miguel Locks and connecting the Rio Grande Reservoir with the water system on the east side of the Canal, developed a serious leak. As this pipe line is deeply embedded in the concrete of the locks, the leak could not be located and repaired without keeping the west lock unwatered for a more or less unknown time. It was decided to construct a new line in another location.

The site chosen was at Paraiso at the point where the pontoon bridge of the Panama Railroad crossed the Canal in the period from the opening of the Canal to January 1, 1921. In order to protect the line from damage, the Dredging Division excavated a trench across the Canal 5 feet deep and 25 feet wide in which to lay the pipe.

Four hundred and fifty-nine feet of 12-inch cast iron screw pipe (the only pipe available on the Isthmus), sufficient to cross the bottom of the Canal and project out of the water at each bank, was assembled in one piece on the pontoon of the former bridge over the Canal, and at midnight on May 29, the pontoon was swung across the Canal. The floating cranes *Ajax* and *Hercules* were then placed in position near the pontoon bridge on each side of the Canal, lifted the pipe from the barge and placed it in position in the trench dug at the bottom of the Canal. The pipe was in place and the Canal cleared by 8 o'clock the next morning, in time to prevent any delay to ships transiting the Canal.

Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective July 31, 1923:

Commodities.	Unit.	Price.
Brass, bar, average	Lb.	$0.225
Brass, sheet, average	Lb.	.375
Bronze, Tobin, average	Lb.	.25
Gasoline, motor grade	Gal.	.24
Metal, yellow	Lb.	.25
Oakum, Navy, spun	Lb.	.15
Oakum, Navy, unspun	Lb.	.125
Oil, Diesel, at Cristobal only, in bulk, no surcharge	Bbl. of 42 gals.	2.35
Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge	Bbl. of 42 gals.	1.70
Oil, ammonia, cylinder	Gal.	.35
Oil, burning	Gal.	1.06
Oil, engine, gas, in drums	Gal.	.61
Oil, engine, gas, heavy, in drums	Gal.	.50
Oil, engine, gas, heavy, in drums	Gal.	.475
Oil, engine, gas, extra heavy, in cases	Gal.	.54
Oil, engine, gas, extra heavy, in drums	Gal.	.35
Oil, kerosene, in drums	Gal.	.20
Oil, marine engine	Gal.	.61
Paint, lead, white, dry	Lb.	.14
Paint, lead, white, in oil	Lb.	.15
Paint, zinc, white, dry	Lb.	.14
Paint, zinc, white, in oil	Lb.	.125
Grease, gear, chain and wire rope, lubricating	Lb.	.075
Grease, yellow, cup, No. 3	Lb.	.09
Grease, yellow, cup, No. 5	Lb.	.10
Soda, ash	Lb.	.03
Waste, cotton, colored	Lb.	.14
Waste, cotton, white	Lb.	.14

Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

Toll Charges for Transit of The Panama Canal.

1. Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity $1.20
2. Vessels in ballast, without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity ..... .72
3. Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton ..... .50
4. Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton 1.20
5. Tolls may not exceed the equivalent of $1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of $0.75 per net registered ton.
6. Vessels returning from Gatun Lake to original point of entry into the Canal, without passing through the locks at the other end, are charged tolls for one passage only.
7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls, but a charge will be made for pilotage in such cases, as provided in Paragraph 4, Item 3, of this tariff, and for handling lines in accordance with Item 4, of this tariff.

Official Circular.

Measuring Sand, Gravel, Stone.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., July 23, 1923.

CIRCULAR No. 637-4:

(Superseding all Circulars of the 637 series.)

Effective July 1, 1923, the following quantities will be standard for measuring carloads of sand, gravel and crushed stone:

	Cubic yards.
Standard or large coal cars	25
Roger ballast cars	20
50-ton steel flat cars (without sideboards)	10
Oliver dump cars (small)	15
Oliver dump cars (large)	20

JAY J. MORROW,
Governor.

Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa, from tanks of The Panama Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.35 per barrel.

Crude fuel oil and Diesel oil are also sold by private companies with tanks at the Canal terminals, at prices which will be quoted by them on application. The prices at present range as follows: Crude fuel oil, $1.50 to $1.65 per barrel at Cristobal, and $1.45 to $1.75 at Balboa; Diesel oil, Balboa only, $2.00 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at $12 per ton of 2,240 pounds at Cristobal and $15 at Balboa. For ships in transit through the Canal which are directed to take coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal, $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

Sale of Surplus Material and Equipment.

The Panama Canal offers for sale, by direct purchase at moderate prices, a quantity of telephones, telephone ringers and bells, bank check writers and protectors, small tools and other miscellaneous articles of general utility. These articles may be inspected at the Obsolete Section of the General Storehouse, Balboa, and purchased through the office of the General Storekeeper. Detailed information with prices may be secured by telephone by calling Balboa No. 120.

Sale of Oil Drums.

The Panama Canal offers for sale 300 drums which have been used for handling crude oil, larvacide, etc., at a price of $1 each, without surcharge, f. o. b. Cristobal Storehouse, where these drums are located. Arrangements for purchase may be made with the Storekeeper, Supply Department, Cristobal, or the General Storekeeper, Balboa.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 678.

PORT OF CRISTOBAL.—continued.

*ARRIVALS.

Date.	Vessel.	Line.	From—
July 24	Virio [21]	U. S. Navy	Norfolk.
July 24	Heridia	United Fruit Co.	New Orleans via Habana.
July 25	Metapan	United Fruit Co.	New York via Kingston.
July 25	Tivives	United Fruit Co.	Colombian ports.
July 26	Atenas	United Fruit Co.	Bocas del Toro.
July 28	Oranje Nassau	Royal Netherlands W. I. Mail	Port Limon.

[21] Tug.

*DEPARTURES.

Date.	Vessel.	Line.	For—
July 25	Calamares	United Fruit Co.	Port Limon.
July 25	Robin [23]	U. S. Navy	Norfolk.
July 26	Metapan	United Fruit Co.	Colombian ports.
July 26	Tivives	United Fruit Co.	New York via Kingston.
July 26	Heredia	United Fruit Co.	New Orleans via wayports.
July 26	Atenas	United Fruit Co.	New Orleans.
July 26	Vireo [21]	U. S. Navy	Norfolk.
July 28	Oranje Nassau	Royal Netherlands W. I. Mail	Amsterdam via wayports.

[23] And barge.

PORT OF BALBOA.

Date.	Vessel.	Line.	From—
July 22	Baja California	Latin-American Line	Paita.

Date.	Vessel.	Line.
July 23	Acasta	Anglo-Saxon Petroleum Co.
July 24	Baja California	Latin-American Line
July 28	Colusa	Grace Line

For—
San Pedro.
San Francisco.
Antofagasta.

* Other than ships passing through the Canal.

THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XVI. Balboa Heights, C. Z., August 8, 1923. No. 52.

Proclamation by the President.

To the people of the United States—

In the inscrutable wisdom of Divine Providence, Warren Gamaliel Harding, 29th President of the United States, has been taken from us. The Nation has lost a wise and enlightened statesman and the American people a true friend and counsellor whose whole public life was inspired with the desire to promote the best interests of the United States and the welfare of all its citizens. His private life was marked by gentleness and brotherly sympathy and by the charm of his personality he made friends of all who came in contact with him.

It is meet that the deep grief which fills the hearts of the American people should find fitting expression.

NOW, THEREFORE, I, CALVIN COOLIDGE, President of the United States of America, do appoint Friday next, August 10, the day on which the body of the dead President will be laid in its last earthly resting place, as a day of mourning and prayer throughout the United States. I earnestly recommend the people to assemble on that day in their respective places of divine worship, there to bow down in submission to the will of Almighty God, and to pay out of full hearts the homage of love and reverence to the memory of the great and good President, whose death has so sorely smitten the Nation.

IN WITNESS WHEREOF I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington, the fourth day of August, in the year of Our Lord, one thousand nine hundred and twenty-three, and of the Independence of the United States the one hundred and forty-eighth.

[SEAL.]

CALVIN COOLIDGE

By the President:

CHARLES E. HUGHES,
Secretary of State.

THE WHITE HOUSE,
Washington, *August 4, 1923.*

Death of the President of the United States.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 3, 1923.

To all concerned—It becomes the sad duty of the Governor to announce the sudden death yesterday evening at San Francisco, Calif., of President Warren G. Harding, our first citizen and the Chief Magistrate of the United States. We, of the Canal Zone, share with our fellow citizens at home the great shock at this sudden termination of a brilliant career of public service, participate in the universal sorrow of our people, and with them humble ourselves before the inscrutable decrees of Almighty God. To us there is also a feeling of personal loss, in the memories of his recent visit to the Zone, and in the knowledge that his untimely brief illness and death has deprived us of a second visit.

As a mark of respect to his memory and as outward manifestation of the Nation's great loss, flags on all public buildings and vessels will be carried at half-mast until after interment; the Administration Building at Balboa Heights, the Courthouse at Ancon, and the Terminal Building at Cristobal will be draped in mourning, and on the date of the interment activities will be suspended in so far as compatible with public safety, the details of such suspension of activities to be announced later.

JAY J. MORROW,
Governor.

Tanker Traffic Through Panama Canal in July, 1923.

The number and tonnage of tank ships transiting the Canal during July showed a slight decrease from the traffic for the 2 preceding months. The tankers comprised about 43 per cent of the total net tonnage of all vessels passing through the Canal during July.

The following statement shows the number, aggregate net tonnage, tolls, and cargo of tankships transiting the Canal during July, segregated by nationality of vessels:

Nationality.	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
Atlantic to Pacific.				
United States	78	456,607	$340,506.71	3,759
British	8	40,014	30,894.02	9,607
Norwegian	1	4,916	3,539.52	.....
Totals, July, 1923	87	501,537	374,940.25	13,366
Totals, June, 1923	88	513,690	380,224.05	47,859
Totals, May, 1923	91	520,101	387,037.30	56,356
Pacific to Atlantic.				
United States	74	444,635	456,145.32	833,385
British	8	46,041	48,329.88	66,734
Norwegian	1	5,105	5,553.75	8,714
French	1	2,949	3,143.75	5,317
Totals, July, 1923	84	498,730	513,172.70	914,150
Totals, June, 1923	85	491,479	521,017.86	933,702
Totals, May, 1923	82	497,084	519,694.61	930,862

Of the total tanker traffic shown above, the following is a summary of the vessels giving Los Angeles as their port of origin or destination:

Tankships routed to Los Angeles.	No. of vessels.	Panama Canal net tonnage.	Tolls.	Tons of cargo.
July, 1923	78	454,187	$331,489.32	830
June, 1923	73	438,812	318,884.81	.....
May, 1923	73	434,075	314,885.07	.....
Tankships routed from Los Angeles.				
July, 1923	72	429,458	443,001.15	828,728
June, 1923	71	426,929	452,906.05	821,482
May, 1923	73	451,011	471,028.53	854,201

Low Fuel Consumption on Motor Ships.

The motor ship *Eknaren*, Swedish registry, owned and operated by the Transatlantic Steamship Co., transited the Canal July 30, en route from Antwerp to North Pacific ports. At the time of her transit of the Canal the fuel consumption of the *Eknaren* was reported as 7½ tons daily at 10½ knots per hour.

The *Eknaren* is a sister ship of the motor ship *Yngaren*, which is said to have been the first motor vessel to be equipped with opposed piston engines. The *Yngaren* transited the Canal about a year ago, and at that time was reported to have established a world's low record for fuel consumption of 9 tons per day for a 9,000-ton carrier driven at an average speed of 10.57 knots. The motor ship *Dominion Miller*, which transited the Canal recently, is another vessel operated with opposed piston engines, and the *Eknaren* is said to embody improvements which were made possible by a study of these 2 predecessors.

The *Eknaren* has a registered tonnage of 5,293 gross and 4,032 net. On her maiden voyage to the Pacific coast she carried 7,300 tons of cargo, consisting in part of 3,500 tons of silver sand, 1,245 tons of moulding sand, 1,500 tons of rags, and 300 tons of window glass.

Steamship "Chilore" Added to Fleet of Ore Steamship Corporation.

The steamship *Chilore*, owned by the Guaranty Trust Co. of New York, and operated by the Ore Steamship Corporation, transited the Canal July 26, en route from Cruz Grande, Chile, to Baltimore, Md., carrying a cargo of 19,700 tons of iron ore.

The *Chilore* is a combination ore and tank ship, has a length of 571½ feet over all, 72½ feet beam, and 44 feet molded depth, with a registered tonnage of 13,154 gross and 8,393 net. She was recently completed at the Alameda yard of the Bethlehem Shipbuilding Corporation and is said to be the largest merchant vessel built upon the Pacific coast.

Facilities for Oil and Gasoline Storage.

There is published below a statement of the fuel oil storage tanks which have been erected at the Panama Canal and are now in use. The list does not differ materially from that published in THE PANAMA CANAL RECORD for August 9, 1922, except for the addition of 6 tanks erected during the past year for the United States Navy. The slight discrepancy in the capacity ratings is due to the substitution of figures showing working capacity for those showing total gauged content:

Owner.	Cristobal.		Balboa.		Total, Both Terminals.	
	No. of tanks.	Working capacity.	No. of tanks.	Working capacity.	No. of tanks.	Working capacity.
		Barrels.		*Barrels.*		*Barrels.*
The Panama Canal	5	302,621.20	4	192,677.40	9	495,298.60
West Indian Oil Co.	2	108,776.99	2	84,021.92	4	192,798.91
Panama Agencies Co.	.....	.....	1	24,646.84	1	24,646.84
Asiatic Petroleum Storage Corporation	2	109,264.49	2	108,753.10	4	218,017.59
Union Oil Company of California	.....	.....	4	146,551.07	4	146,551.07
Huasteca Petroleum Co.	3	164,738.44	.....	.....	3	164,738.44
United Fruit Co.	1	54,766.91	.....	.....	1	54,766.91
The Texas Co.	2	109,679.49	.....	.....	2	109,679.49
Arrow Oil Co.	2	109,605.72	.....	.....	2	109,605.72
U. S. Navy	3	[1] 150,000.00	3	[1] 150,000.00	6	[1] 300,000.00
Totals	20	1,109,453.24	16	706,650.33	36	1,816,103.57

[1] Approximate.

Several of the private tanks listed in the above statement are used for the storage of Diesel oil, and in addition to these THE PANAMA CANAL owns at Balboa a small tank with a capacity of 4,038 barrels, in which Diesel oil is stored. It is now leased to the Panama Agencies Co.

The West India Oil Co. owns at Balboa a tank for the storage of gasoline in bulk, with a capacity of approximately 35,000 barrels. The Panama Canal has 2 gasoline storage tanks, 1 at Balboa and 1 at Cristobal, rated at 221,276 gallons each.

The Union Oil Co. has an 80,000-barrel tank under construction at Balboa.

Leases have been issued to various companies for 14 sites at Cristobal and 11 at Balboa on which tanks have not yet been erected.

MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, August 4, 1923.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Albaro	27	10.10	29	6.08	29	14.51	29	15.56	Italian	Italian Line	321.2	40.2	17.11	Genoa	Valparaiso	General	423	3,039	2,090
Suelco	28	14.50	29	6.20	29	14.55	29	21.15	American	Submarine Boat Corporation	324.0	46.2	19.8	New York	Seattle	General	2,503	3,984	2,612
Santa Rosalia	28	16.35	29	7.35	29	15.43	29	16.47	American	U. S. Steel Products Co	406.0	52.6	21.0	New York	Valparaiso	General	4,500	5,900	4,443
Ohioan	29	3.40	29	7.57	29	16.20	29	22.49	American	American-Hawaiian Line	408.0	54.0	25.0	Philadelphia	Los Angeles	General mdse	6,000	7,112	4,896
Steel Navigator	29	6.00	29	9.17	29	16.30	29	20.38	American	U. S. Steel Products Co	424.0	56.0	24.10	Philadelphia	Yokohama	General	7,974	7,611	5,454
Clan MacKenzie	29	6.50	29	9.22	29	17.04	29	18.12	British	Cayzer Irvine & Co	420.0	53.0	21.0	Philadelphia	Auckland	General	6,049	6,752	4,729
Brattingsborg	29	9.43	29	9.50	29	17.35	29	18.45	Danish	C. K. Hansen	325.0	47.0	13.0	Curacao	Pisagua	Ballast		3,350	2,390
Sabine Sun [1]	29	10.14	29	11.00	29	18.18	30	0.01	American	Sun Oil Co	429.0	59.2	20.0	New York	Los Angeles	Ballast		7,621	5,277
Nordlys	29	10.14	29	11.18	29	19.09	30	13.45	Danish	Norden Steamship Co	362.0	51.3	15.6	New Orleans	Chile	Ballast		4,932	3,468
Eastern Sea	29	13.10	29	13.20	29	20.10	30	13.15	American	U. S. & Australia Line (S. B.)	384.0	51.1	23.6	New York	Brisbane	General	4,276	5,934	4,415
Trekieve	29	13.55	30	6.20	30	15.37	30	16.30	British	Edward Hain & Sons	400.1	52.4	22.0	New York	Dunedin	General	3,908	5,766	4,083
Ebro	29	9.48	30	7.25	30	16.31	30	17.20	British	Pacific Steam Navigation Co	450.0	57.0	25.3	New York	Valparaiso	General	2,280	9,151	6,227
Selma City	29	23.55	30	7.35	30	16.58	30	18.15	American	U. S. Navy	424.2	56.2	25.9	New Orleans	Yokohama	(6)	7,440	7,611	5,450
Eknaren [2]	30	2.05	30	8.48	30	18.47	30	22.15	Swedish	Transatlantic Steamship Co	420.0	54.0	22.0	Antwerp	San Pedro	General	7,300	7,105	5,193
Halo [1]	30	6.25	30	9.30	30	19.38	31	7.46	American	Cities Service Transp. Co	435.1	56.0	18.0	Boston	San Pedro	Ballast		7,642	5,274
Durango [1]	30	7.34	30	9.55	30	20.36	31	1.02	American	Malston Steamship Co	435.0	56.0	20.0	Baltimore	San Pedro	Ballast		7,642	5,274
Indien [2]	30	10.25	30	10.55	30	21.24	30	22.21	Danish	Orient Steamship Co	390.7	53.2	14.2	Norfolk	Iquique	Ballast		6,173	4,418
Patuxent [3]			30	8.00	30	10.19			American	U. S. Navy	156.0	29.0		Cristobal	Gatun Lake	(7)			
Ruby [4]			30		30	12.39			American	E. J. Hooper				Cristobal	Gatun Lake	Ballast		1	1
Strombus [1]	30	10.30	31	6.23	31	15.04	31	16.10	British	Anglo-Saxon Petroleum Co	410.0	52.1	20.0	London	San Pedro	Ballast		6,495	4,741
Bethore [1]	30	15.27	31	7.15	31	16.13	31	17.29	American	Ore Steamship Co	550.0	72.2	25.0	New York	Cruz Grande	Ballast		15,476	4,354
William Rockefeller [1]	31	1.45	31	8.00	31	17.08	31	18.15	American	Standard Oil Co	554.9	75.3	18.9	New York	San Pedro	Ballast		14,785	10,313
Hoxbar [1]	29	8.30	31	8.30	31	17.59	31	19.00	American	McAllister Brothers (S. B.)	434.0	56.0	17.0	Pensacola	San Pedro	Ballast		7,421	5,174
Willhilo	31	10.30	31	10.50	31	19.03	31	22.45	American	Williams Line	434.3	57.7	23.9	New York	Tacoma	(8)	8,900	7,983	5,882
Frontiersman [5]	30	17.48	31	11.10	31	19.45	31	21.36	British	Captain MacMillan	169.8	24.1	14.0	Saint Lucia	Los Angeles	Ballast		358	241
Rio Gatun [4]	30		31		31	12.52			Panaman	A. R. Eckhart				Cristobal	Gatun Lake	Unknown		8	8
Author	30	12.37	1	6.07	1	13.07	1	14.25	British	Harrison Line	423.2	53.0	15.3	Liverpool	San Francisco	Ballast		6,382	4,614
Margit	31	12.15	1	6.25	1	13.51	1	15.15	Chilean	Rafael Torres	215.0	32.0	13.0	London	Valparaiso	Explosives	800	1,045	598
Chuky [1]	31	15.13	1	7.25	1	15.30	1	16.47	British	Sheridan Steamship Co	440.0	56.0	26.6	Tampico	Tocopilla	Crude oil	9,593	7,691	4,723
Charles H. Cramp	1	8.35	1	9.00	1	16.30	1	21.00	American	Argonaut Steamship Co	404.6	53.9	28.6	Boston	Seattle	General	8,169	6,755	4,750
Gen. O. H. Ernst	30	12.45	1	11.00	1	17.05	2	5.50	American	Panama Railroad Steamship Line	356.0	45.3	19.8	New York	Guayaquil	General	1,042	4,503	2,764
Suruga	1	6.25	1	11.30	1	19.06	1	21.00	American	Barber Line	375.3	52.0	24.8	New York	Yokohama	General	4,579	5,177	3,877
W. W. Mills [1]	1	13.20	1	13.30	1	19.55	1	21.00	American	Pure Oil Co	424.0	58.0	17.0	Marcus Hook	San Pedro	Ballast		7,333	5,119
Anna E. [4]			1		1	9.30			American	C. A. Blair				Cristobal	Gatun Lake	Ballast		1	1

[1] Tanker. [2] Motor ship. [3] Tug. [4] Launch. [5] Yacht. [6] Steel, sulphate of ammonia. [7] Towing barges *No. 293* and *No. 295*. [8] General, steel, oil and machinery.

Catinat	31	16.07	2	6.15	2	14.01	2	15.20	French	Soc. Gen. d'Armement Nantes	472.0	61.0	27.8	Louisburg	Shanghai	General, pet.	9,452	9,124	6,749
Jason	31	19.50	2	7.05	2	14.49	2	15.55	Dutch	Royal Netherlands W. I. Mail	360.0	48.6	19.0	Hamburg	Guayaquil	General	3,100	4,321	3,120
Minnesota [9]	1	14.03	2	7.15	2	17.46	2	21.05	American	Colonel Smoot	125.0	38.0	9.0	Chester	Salina Cruz	Ballast		501	501
Japan Arrow [1]	1	19.48	2	7.45	2	15.47	2	16.58	American	Standard Transportation Co	468.3	62.7	21.0	Providence	Los Angeles	Ballast		10,084	7,426
Munwood	1	14.03	2	8.27	2	16.39	2	21.05	American	Munson Line	345.0	48.0	21.0	Chester	Salina Cruz	General, coal	2,000	3,794	2,486
Palena	29	21.10	2	8.35	2	17.22	2	18.30	Chilean	Chilean Line	350.0	42.1	22.10	Cristobal	Valparaiso	General	798	3,666	2,577
Ardmore [1]	1	20.25	2	9.05	2	19.16	2	20.34	American	Standard Oil Co	449.5	59.6	20.0	Baltimore	San Pedro	Ballast		8,612	6,457
T. J. Williams [1]	1	22.15	2	9.43	2	20.00	2	21.00	American	Standard Oil Co	465.4	60.2	20.4	New York	San Pedro	Ballast		8,585	6,087
Haarlem	1	8.20	2	10.25	2	20.34	2	21.34	Dutch	Royal Netherlands W. I. Mail	374.0	50.0	21.6	Hamburg	Corral	General	4,792	4,759	3,660
Santa Elisa	1	19.38	2	10.43	2	21.34	2	23.10	American	Grace Line	360.3	51.7	22.6	New York	Talcahuano	General	1,925	5,957	4,325
Andrea F. Luckenbach	2	7.50	2	11.10	2	21.30	3	2.35	American	Luckenbach Line	496.0	68.2	29.6	Philadelphia	Seattle	General	13,256	11,487	8,762
Corona	2	6.45	2	11.25	2	22.25	2	23.34	Norwegian	Corona Steamship Co	334.2	48.0	13.4	Newport News	Coos Bay	Ballast		3,662	2,370
William Campion	1	22.35	2	11.35	2	23.00	3	0.10	American	Garland Steamship Corp	384.4	51.2	20.2	New York	Seattle	General	4,769	6,327	4,433
Port Adelaide	2	14.55	3	6.25	3	13.50	3	14.51	British	Commonwealth & Dom. Line	481.2	62.0	21.0	New York	Sydney	General	4,500	10,777	8,130
Minnesotan	2	18.25	3	7.20	3	16.03	3	22.05	American	American-Hawaiian Line	407.0	53.7	22.0	Boston	Puget Sound	General	5,346	7,159	4,913
Sutorpco	2	19.04	3	7.58	3	16.51	3	18.10	American	Submarine Boat Corporation	324.0	46.0	16.5	Newark	Los Angeles	General	2,000	3,984	2,612
Argosy	2	19.45	3	8.00	3	17.31	3	18.30	American	Wessel Duval & Co. (S. B.)	390.0	54.0	20.2	New York	Paita	([11])	3,733	6,203	4,280
India Arrow [1]	3	4.00	3	8.42	3	18.06	3	19.12	American	Standard Transportation Co	468.3	62.7	26.0	Beaumont	Yangtze River	Kerosene	11,028	10,084	7,426
Fredensbro	2	18.05	3	9.10	3	19.04	4	13.25	Danish	Det Oversoeiske Companie	301.0	44.0	13.1	New Orleans	Talcahuano	General	1,374	2,997	2,113
Pear Branch	3	7.08	3	9.45	3	19.58	3	21.08	British	Nautilus Steamship Co	398.6	53.8	19.1	Liverpool	Guayaquil	General	1,064	5,760	3,866
Colombia	3	12.00	4	6.07	4	13.50	5	1.30	American	Pacific Mail Steamship Co	380.0	49.0	22.7	New York	San Francisco	General	2,655	6,015	4,281
Rio Gatun [10]	2		4		4	8.15			Panaman	A. R. Eckhart				Cristobal	Gatun Lake	Unknown		8	8
Patrick Henry	4	9.25	4	9.35	4	16.55	4	18.00	American	Tampa Interocean Co. (S. B.)	439.6	60.2	26.0	New Orleans	Manila		9,042	9,987	6,612
Ucayali	28	18.30	4	10.30	4	17.51	4	20.26	Peruvian	Peruvian Line	374.7	46.3	18.3	Cristobal	Callao	General	623	4,465	2,405
Carolyn	3	21.00	4	12.35	4	19.50	5	7.02	American	A. H. Bull & Co	313.0	46.0		Norfolk	Bremerton	Coal	4,363	3,644	2,566

[1] Tanker. [9] Dredge. [10] Launch. [11] Cement, steel, machinery, and general cargo.

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.

Cannonpark	29	1.00	29	6.45	29	14.35	29	15.25	British	N. O. & S. A. S. S. Co	300.6	43.6	21.4	Talcahuano	Jacksonville	Nitrate of soda	4,034	2,951	1,879
Hagood [1]	29	1.45	29	8.17	29	16.30			American	Cities Service Corporation	435.6	56.2	27.6	San Pedro	Boston	Crude oil	10,000	7,426	5,123
Henry S. Grove	29	2.15	29	8.35	29	16.35	29	16.35	American	Argonaut Steamship Lines	404.6	53.9	20.4	Everett	Baltimore	Lumber, ore	4,600	6,755	4,688
Sudbury	29	3.10	29	9.05	29	17.30	29	22.35	American	American-Hawaiian Line	384.8	51.2	21.0	Los Angeles	New Orleans	General, copper	4,557	5,571	4,033
Centaurus	29	3.45	29	10.04	29	18.00	29	18.00	American	Argonaut Steamship Lines	409.8	54.2	22.6	San Francisco	New York	Lumber, general	6,500	6,581	4,795
J. L. Luckenbach	29	4.30	29	10.22	29	18.10	29	18.10	American	Luckenbach Line	448.9	60.2	27.8	San Francisco	New York	General	7,000	9,294	6,861
Maple Branch	29	6.00	29	10.35	29	19.10	29	20.20	British	F. and W. Ritson	399.5	52.0	23.9	Mejillones	Liverpool	Nitrate, General	7,008	5,618	4,116
Herman Frasch	29	6.00	29	10.55	29	20.23	29	20.23	American	Union Sulphur Co	356.0	51.6	15.8	San Francisco	Sabine, Tex.	Ballast		5,349	2,950
Palena	28	22.00	29	13.45	29	21.10	2	8.35	Chilean	South American Line	350.0	42.0	20.4	Talcahuano	Cristobal	General	30	3,666	2,577
Venezuela	29	8.40	30	7.06	30	14.15	31	12.03	American	Pacific Mail Steamship Co	380.0	48.9	22.6	San Francisco	New York	General	2,000	6,033	4,353
E. L. Doheny [1]	29	13.35	30	7.54	30	16.10	30	16.10	American	Pan.-Amer. Pet. & Trasp. Co	467.6	62.7	29.6	San Pedro	New Orleans	Crude oil	13,310	9,666	7,033
Manavi	29	15.10	30	8.45	30	16.20			British	Pacific Steam Navigation Co	216.0	35.1	13.1	Guayaquil	Cristobal	General	530	1,357	884
Lehigh	29	15.33	30	9.02	30	17.05	30	17.05	American	N. Atlantic & Western S. S. Co	390.0	54.2	25.6	Seattle	Philadelphia	Lumber, general	5,038	6,142	4,276
Munrio	29	16.30	30	9.44	30	17.25	30	17.25	American	Munson Line	333.6	48.2	22.0	Marshfield	New York	Lumber	3,800	4,165	3,066
Salvador	29	16.45	30	9.49	30	17.35	5	9.20	British	Pacific Steam Navigation Co	225.0	35.4	13.6	Champerico	Cristobal	General	499	1,270	735

[1] Tanker.

MOVEMENTS OF OCEAN VESSELS.—Continued.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.—continued.

Ship.	Arrived at port.		Entered Canal.		Completed transit.		Cleared for sea.		Nationality.	Line.	Length.	Beam.	Salt water draft.	From—	For—	Cargo.		Panama Canal tonnage.	
	Day.	Hour.	Day.	Hour.	Day.	Hour.	Day.	Hour.								Nature.	Tons.	Gross.	Net.
Republic [1]	29	20.30	30	10.42	30	18.57	30	18.57	American	Chile Steamship Co	345.0	49.0	22.4	Tocopilla	New York	Copper, bars, ore	5,488	4,393	3,006
Hugoton [1]	29	21.48	30	11.01	30	18.20	30	18.20	American	C. D. Mallory & Co	434.8	56.2	28.0	San Pedro	Baton Rouge	Crude oil	10,743	7,429	5,141
Brielle	30	8.20	30	11.47	30	20.42	31	13.17	Dutch	Royal West India Mail Co	423.0	58.0	27.0	Arica	Hamburg	General	8,436	7,322	5,254
Agwipond [1]	30	11.15	30	12.20	30	21.45	31	0.25	American	Ward Line	468.3	62.7	28.0	San Pedro	Baltimore	Crude oil	12,965	9,810	7,018
Rhine Maru	29	21.30	30	12.34	30	22.45	31	10.10	Japanese	Kabushiki Kaisha Kawasaki Zos.	405.0	53.0	28.0	Kobe	Azores [14]	Wheat	8,100	7,044	5,136
Lio [1]	30	11.30	30	12.52	30	23.45	31	3.05	American	McAllister Brothers (S. B.)	431.0	59.2	25.0	San Pedro	Philadelphia	Gasoline	11,712	7,817	5,107
El Norte	29	15.00	30	13.03	30	23.30	31	23.30	Panaman	Henry Hustardo	55.0	16.8	6.0	Panama	Colon	Ballast		32	26
Cape Ann [1]	30	13.40	30	14.30	31	1.20	31	8.30	American	Cape Cod Oil Co	425.8	57.0	27.0	San Pedro	New York	Crude oil	9,900	7,484	5,216
Rimutaka	30	14.00	31	7.07	31	14.05	31	19.40	British	New Zealand Steamship Co	457.7	58.2	21.6	Auckland	London	Frozen, general	3,665	9,201	6,961
Elisha Walker [1]	30	18.30	31	7.48	31	15.20	31	15.24	American	Pan-Amer. Pet. & Transp. Co	429.3	59.2	28.6	San Pedro	New Orleans	Crude oil	10,890	7,978	5,971
Albertolite [1]	30	22.00	31	8.36	31	16.50	31	16.50	British	Imperial Oil Co	463.2	60.2	27.6	Talara	New York	Crude oil	11,881	8,491	5,879
Victolite [1]	31	1.14	31	9.05	31	18.05	31	18.05	British	Imperial Oil Co	500.4	68.2	28.6	Talara	New York	Crude naphtha	13,000	11,049	7,732
Toluma	31	2.45	31	10.25	31	19.30	31	22.00	Norwegian	Grace Line	417.8	54.4	28.2	Punta Arenas	New York	General	8,901	7,176	5,219
Walter A. Luckenbach	31	4.14	31	10.37	31	17.25	31	17.25	American	Luckenbach Line	446.5	56.1	27.0	Portland	New York	General	3,500	8,785	6,567
Swiftwind [1]	31	6.45	31	11.11	31	20.40	31	23.20	American	C. D. Mallory	464.6	60.2	27.7	San Pedro	Fall River	Crude oil	12,500	8,473	5,997
Hanley	31	4.30	31	12.05	31	21.20	31	21.20	American	Weyerhauser Timber Co	440.0	56.0	25.0	Everett	Boston	Lumber, general	9,423	8,301	5,995
Canadian Spinner	31	11.45	31	13.13	31	10.35	1	0.15	British	Canadian Gov. Merchant Marine	400.0	52.4		Sydney	Boston	General	400	5,871	4,094
Imlay [1]	31	4.30	31	13.55	31	23.40	31	23.40	American	C. D. Mallory	425.8	57.0	27.0	San Pedro	Baton Rouge	Crude petroleum	10,700	7,218	4,969
Steel Trader	31	3.30	31	14.47	1	0.20	1	0.30	American	Isthmian Steamship Lines	424.2	56.2	27.3	Seattle	London	General	8,000	7,611	5,450
Amasis	31	18.15	1	7.07	1	15.05	1	18.10	German	Kosmos Lines	438.2	55.2	23.0	Corral	Hamburg	General	6,775	7,286	5,174
Floridian	1	4.00	1	7.42	1	15.35	1	18.40	American	American-Hawaiian Line	415.0	53.7	19.0	Seattle	Boston	General	3,866	7,273	5,105
Essequibo	1	11.45	1	13.06	1	19.50	2	11.50	British	Pacific Steam Navigation Co	450.3	57.8	22.0	Valparaiso	New York	General	1,274	9,099	6,117
Taxpanoil [1]	1	8.50	1	14.32	1	22.10	1	22.07	American	McAllister Brothers (S. B.)	431.0	59.2	26.0	San Pedro	Baltimore	Crude oil	9,500	7,862	4,979
Atlantic Sun [1]	1	1.730	2	6.59	2	15.10	2	15.10	American	Sun Oil Co	429.3	59.2	26.6	San Pedro	New York	Crude oil	10,462	7,567	5,350
San Nazario [1]	1	21.05	2	7.52	2	16.20	2	16.20	British	Eagle Oil Transport Co	525.0	66.5	29.3	San Pedro	Tampico	Crude oil	14,697	12,158	8,463
Gymeric [1]	1	23.00	2	8.35	2	17.05	2	20.35	British	Bank Line, Ltd	420.0	54.6	26.0	San Francisco	London	Gasoline	8,572	6,501	4,459
Narbo	1	24.00	2	10.01	2	21.20	3	7.35	American	Tampa Interocean Co. (S. B.)	402.6	53.0	25.0	Hongkong	New York	General	7,677	6,579	4,847
Vacoil [1]	2	5.25	2	11.10	2	21.25	3	5.50	American	Vacuum Oil Co	340.1	49.2	23.6	Los Angeles	Philadelphia	Gasoline	5,247	4,566	2,844
Gulfstate [1]	2	7.00	2	11.12	2	21.40	2	21.40	American	Gulf Refining Co	435.0	56.0	27.0	San Pedro	Port Arthur	Crude oil	10,338	7,643	5,319
Gulfpoint [1]	2	23.55	2	12.51	2	22.45	2	22.45	American	Gulf Refining Co	435.0	56.2	28.0	San Pedro	Port Arthur	Crude oil	10,584	7,426	5,094
Pacific Maru	1	24.00	2	13.26	3	0.55	3	0.55	Japanese	Kawasaki Kisen Kaisha	385.0	51.0	26.6	Valparaiso	Baltimore	Nitrate of soda	8,400	6,251	4,736
India [1]	2	3.00	2	14.12	2	11.50	2	23.50	Dutch	Anglo-Saxon Petroleum Co	460.5	58.2	29.0	San Pedro	Tuxpan	Crude oil	9,000	8,239	5,518
H. H. Rogers [1]	1	23.00	2	9.32	2	18.15	2	18.45	American	Standard Oil Co	500.0	68.0	29.0	San Pedro	New York	Crude petroleum	15,500	10,333	7,475
Lochgoil	2	16.00	3	7.00	3	14.45	3	20.45	British	Royal Mail Steam Packet Co	485.2	62.3	29.6	Vancouver	London	Grain, general	10,000	10,803	7,606
S-3 [12]	2	10.28	3	7.15	3	14.20			American	U. S. Navy	231.0	31.0		Balboa	Cristobal	Ballast			
E. T. Bedford [1]	2	20.00	3	8.10	3	16.27	3	16.27	American	Standard Oil Co	499.2	68.1	30.6	San Pedro	New York	Crude oil	25,600	11,009	7,967
Agwismith [1]	3	4.34	3	9.03	3	17.42	3	17.42	American	Ward Line	499.9	68.1	27.0	San Pedro	New York	Crude oil	14,827	10,600	7,447

[1] Tanker. [12] Submarine. [14] For orders.

Richconcal [1]	2	23.47	3	13.20	3	20.45	3	20.45	American	New England Fuel & Transp. Co	435.0	56.0	26.0	San Pedro	Boston	Crude oil	10,000	7,481	5,119
K. R. Kingsbury [2]	3	12.50	3	14.02	3	21.55	3	21.55	American	Standard Oil Co	440.0	58.2	31.0	Los Angeles	New York	Crude oil	11,000	9,033	5,938
Hanover	3	9.15	3	15.13	3	22.50	4	0.05	American	Tampa Interocean S. S. Co. (S. B.)	434.3	57.7	25.0	Takubar	New Orleans	([16])	5,584	7,982	5,911
Remnera	3	4.30	4	7.34	4	14.15	4	14.15	British	New Zealand Shipping Co	485.0	62.3	26.6	Wellington	London	Frozen meat, gen	5,654	11,717	8,751
Eldorado	3	11.00	4	7.59	4	15.22	4	15.22	American	Swayne & Hoyt	245.6	42.0	16.6	Puget Sound	New Orleans	Box shocks, gen.	1,660	2,439	1,662
Borga [14]	3	18.00	4	8.54	4	15.55	4	15.55	Norwegian	Fred Olsen	362.4	51.4	24.0	San Francisco	Dublin	Wheat, general	5,800	5,242	3,706
Oropesa	3	19.45	4	9.20	4	17.25	4	21.55	British	Pacific Steam Navigation Co	552.0	66.0	26.6	Valparaiso	Liverpool	General	5,755	14,510	10,260
Resolute [15]	4	9.00	4	10.32	4	18.25	....	.....	American	Whitney Bodden Brokerage	182.2	39.5	....	Callao	El Cuyo	Ballast	.....	742	623
Laura C. Hall	4	6.00	4	12.25	4	21.40	6	6.15	British	Pacific Metals Corporation	81.0	25.6	10.0	Buenaventura	Cristobal	([17])	66	132	72
Urubamba	4	14.20	4	15.21	4	21.43	....	.....	Peruvian	South American Line	356.8	46.5	16.3	Ilo	Cristobal	General	1,160	4,803	2,951

[1] Tanker. [14] Motor ship. [15] Sail boat. [16] Sugar, rice, licorice root, and general. [17] Platinum, coffee, and gold.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

*ARRIVALS.

Date.	Vessel.	Line.	From—
July 29	Zacapa	United Fruit Co	New Orleans via Habana.
July 29	Calamares	United Fruit Co	Port Limon.
July 30	Eupatoria	Hamburg-American Line	Livingston.
July 31	San Gil	United Fruit Co	Boston via Habana.
July 31	Pastores	United Fruit Co	New York via Habana.
July 31	Puerto Rico	French Line	St. Nazaire via wayports.
August 1	Parismina	United Fruit Co	New Orleans via Habana.
August 1	Sixaola	United Fruit Co	New York via Kingston.
August 2	Bobolink [18]	U. S. Navy	New York via wayports.
August 2	Zacapa	United Fruit Co	Bocas del Toro.
August 4	Coronado	Elders & Fyffes, Ltd	Port Limon.
August 1	Arabia [19]	San Blas Trading Co	Colon.

*DEPARTURES.

Date.	Vessel.	Line.	For—
July 29	Calamares	United Fruit Co	New York via Habana.
July 30	Zacapa	United Fruit Co	Bocas del Toro.
July 30	Gen. W. C. Gorgas	Panama Railroad Steamship Line	New York via Haiti.
July 31	Eupatoria	Hamburg-American Line	Cartagena.
August 1	Pastores	United Fruit Co	Port Limon.
August 2	Sixaola	United Fruit Co	Colombian ports.
August 2	Parismina	United Fruit Co	New Orleans via wayports.
August 2	San Gil	United Fruit Co	Boston via Port Limon and Jamaica.
August 2	Zacapa	United Fruit Co	New Orleans.
August 2	Puerto Rico	French Line	St. Nazaire via wayports.
August 4	Coronado	Elders & Fyffes, Ltd	Bristol via Kingston.
August 1	Arabia [19]	San Blas Trading Co	Colon.

[18] Mine sweeper. [19] Motor schooner.

PORT OF BALBOA.

August 2	Los Angeles	Union Oil Co. of California	Port San Luis.
August 3	Seiyo Maru	Toyo Kisen Kaisha	Hongkong.
August 3	Anomia [1]	Anglo-Saxon Petroleum Co	San Pedro.
August 4	Anyo Maru	Toyo Kisen Kaisha	Hongkong.
August 4	U. S. S. Galveston	U. S. Navy	Punta Arenas, C. R.
August 4	Talamanca [20]	United Fruit Co	Chepo, Panama.

August 3	Los Angeles	Union Oil Co. of California	Port San Luis.
August 4	Seiyo Maru	Toyo Kisen Kaisha	Valparaiso.

[1] Tanker. [20] Schooner.

* Other than ships passing through the Canal.

Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 4, 1923.

El Morro Island Light, Tumaco Road—The second officer of the British steamsp *Manavi* reports that the red sector of the El Morro light, in approximate latitu 1° 50′ 35″ N., long. 78° 44′ 15″ W. covers an arc of 40° between bearings 186° a 226°.

Shoal, San Miguel Bay, Gulf of Panama—A large bar, uncovered at low-wa springs has formed in approach to Darien Harbor, between Iguana Island a Patena Point on prolongation of sailing line leading to La Palma Radio Station, shown on H. O. chart 1410.

Vessels entering bay should do so to the southward of the bar, keeping Paten Islet from ½ to 1 mile distant on the starboard hand. Local knowledge is necessa Approximate position, latitude 8° 20′ N., longitude 78° 20′ W.

JAY J. MORROW, *Governor*

Official Circular.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
BALBOA HEIGHTS, C. Z., August 8, 1923.

To all concerned—It has been announced that the interment of our late President Warren G. Harding will take place at 4 p. m., Friday, August 10, which has been proclaimed a day of national mourning.

All work of The Panama Canal and Panama Railroad on the Isthmus will be suspended as far as practicable on that day and offices will be closed; operations generally to be carried on as on Sundays. Special observance is desired at the hour of the services in Marion, and therefore from 4 p. m. to 4.05 p. m. all activity and operation connected with The Panama Canal or Panama Railroad on the Isthmus shall come to a standstill as far as may be compatible with public safety.

Employees paid on annual or monthly basis who are not required to perform their regular duties because of the suspension of work, will be allowed time under the same rules that govern Sunday time, but the time of employees paid on an hourly or per diem basis can not be determined until further advice is received from Washington.

A special memorial service will be held at the Balboa Stadium on the evening of Friday, the 10th of August, to which all are invited.

The period of mourning shall be observed until and including September 2, during which time all flags on public buildings and vessels of The Panama Canal and Railroad will be carried at half-mast, and the principal buildings will continue to be draped in mourning. During the period of mourning all officers of the Army, the Navy, and the Public Health Service, on duty with the Canal, will wear the usual badge of mourning on the arm.

JAY J. MORROW,
Governor.

Sale of Bulls.

The Panama Canal offers for sale the following bulls located at Corozal Hospital dairy: Two Holstein bulls, age about 18 months, sired by King Mindi Mercedes, No. 281930. Dams, good grade imported Holstein cows, with milk production of 4 gallons per day. Two Jersey bulls, age about 2 years, sired by Silner's Majesty No. 117406. Dams, good grade Jersey cows, with milk production of about 4 gallons per day. Sealed proposals will be received at the office of the Chief Quartermaster, Balboa Heights, C. Z., until 10.30 a. m., August 13, 1923, and then opened, for the purchase of the above-described animals. Conditions of sale and form of proposal may be secured from the Purchase and Sales Bureau, Balboa Heights, C. Z.

Auction Sale.

The Panama Canal offers for sale "as is, wh is" at public auction a quantity of obsolete a used articles of the following general descriptio Sash, doors and blinds, car locks, standee bun electric bells, telephone instruments, pos scales, check protectors, gasoline pump, elect generators, electric clocks, circular saws, ca hooks, timber carriers, filing cabinets, sin mattresses, chairs of various types, chiffonie dressers, settees, miscellaneous tools, and variety of other items of general utility. T articles offered may be inspected prior to day sale at the Obsolete Material Section of t Supply Department Storehouse at Balboa which point sale will start promptly at 9 a. n Wednesday, August 15, 1923. Successful bidde will be required to pay for material in full at t time and place of sale in cash or by certified check on an acceptable bank, in favor of the Collecto The Panama Canal. Articles to be entered in the Republic of Panama will be subject to existi regulations as to payment of customs duty, et The Panama Canal reserves the right to reje any or all bids.

Current Net Prices on Fuel Oil, Diesel Oi and Coal.

Crude fuel oil is delivered to vessels at eithe Cristobal or Balboa, from tanks of The Panam Canal, for $1.70 per barrel of 42 gallons.

Diesel oil is sold by the Canal at $2.35 pe barrel.

Crude fuel oil and Diesel oil are also sold b private companies with tanks at the Cana terminals, at prices which will be quoted by then on application. The prices at present range a follows: Crude fuel oil, $1.50 to $1.65 per barre at Cristobal, and $1.45 to $1.75 at Balboa; Die sel oil, Balboa only, $2.00 per barrel.

Coal is supplied to steamships, including war ships of all nations, delivered and trimmed i bunkers at $12 per ton of 2,240 pounds at Cris tobal and $15 at Balboa. For ships in transi through the Canal which are directed to tak coal at Balboa, for the convenience of The Panama Canal, $12 per ton at Balboa. Wher coal is delivered from lighters in quantities of 50 tons or more, the price is $13 per ton at Cristobal $16 at Balboa. For delivering lump coal for galley use, in sacks, $12 additional per ton; but if vessel furnishes sacks, $5 per ton additional.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon applica tion.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

Deliveries of coal can be made at the rate of from 100 to 700 tons an hour, as fast as the ships can receive it in their bunkers. Oil deliveries can be made up to 2,000 barrels per hour, rate depending on gravity of oil, location of shore tanks, and ships' facilities for handling.

UNIVERSITY OF FLORIDA
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